street scene

Design Council

All the Design Council's catalogues and books covering street furniture, beginning with the publication of its first Street Furniture Catalogue in 1963, have been based on products included in Design Index, the Council's photographic and sample record of British goods in current production chosen by independent committees for their high standard of design.

Design Index now includes a complete spectrum of items of street furniture that have been selected by the Design Council's Street Furniture Advisory Committee. Acceptance into Design Index does not automatically make a design suitable for all sites or compatible with other items of equipment in the Index, and street furniture must always be chosen with careful consideration for its setting and its relation to existing equipment.

In cases involving major questions of amenity, especially in surroundings of historical or architectural interest, advice on selection and siting can usually be obtained from the Royal Fine Art Commissions for England and Scotland. Organisations such as the Civic Trust, the Georgian Group, the Council for the Preservation of Rural England, and local amenity societies can also be consulted.

In every case, the aim should be to achieve an area that is a pleasure to use, both from the practical and the visual standpoints.

contents

Designing the streets

The street scene concerns everyone; a pleasant road, shopping centre or park can make a considerable difference to the quality of life enjoyed by people in their area. But, unlike a home, a hotel or a factory, no single person or organisation is responsible for the street scene. All too often, the result is a mess. Cars and lorries compete with pedestrians for space; traffic lights, road signs and advertisements fight for our attention; bus shelters, seats, lighting columns, parking meters and other paraphernalia obstruct pavements and add to the visual confusion.

All this reflects the division of responsibility for the appearance of our streets. One council may put up the road signs and the lighting, another the bus shelters, and a third the litter bins; advertising contractors are responsible for the hoardings; shopkeepers put up fascias and display material; garages cover themselves with flags, posters and notices; the Post Office erect telegraph poles, telephone kiosks and letter boxes; and the other public utilities install everything from posts and poles to manhole covers and sub-stations.

The co-ordination of the activities of all these organisations and individuals is a prerequisite for improving the street scene, for it is the totality of the environment that is important. A beautiful building or an architecturally superb conservation area can be ruined by a badly sited telephone kiosk or some inappropriate street lighting.

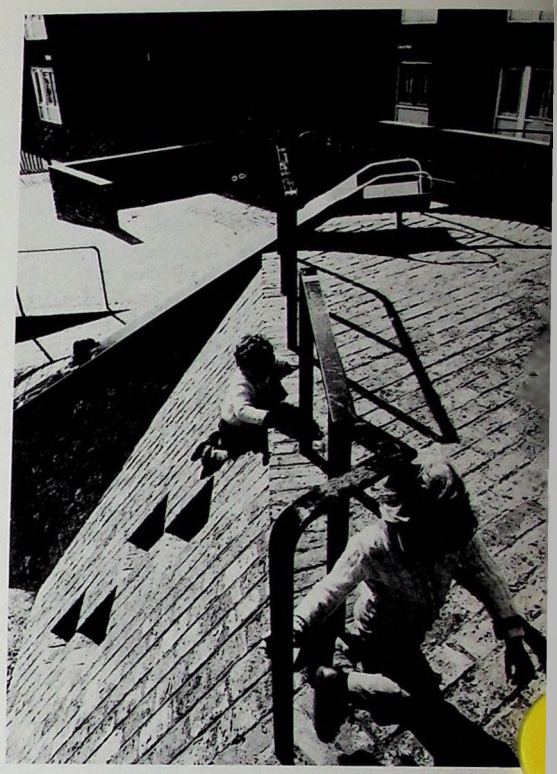
There is no shortage of good designs with which to equip our streets. But even well designed street furniture needs to be selected sensitively, according to the character of the area for which it is intended and with care over details of siting, installation and maintenance.

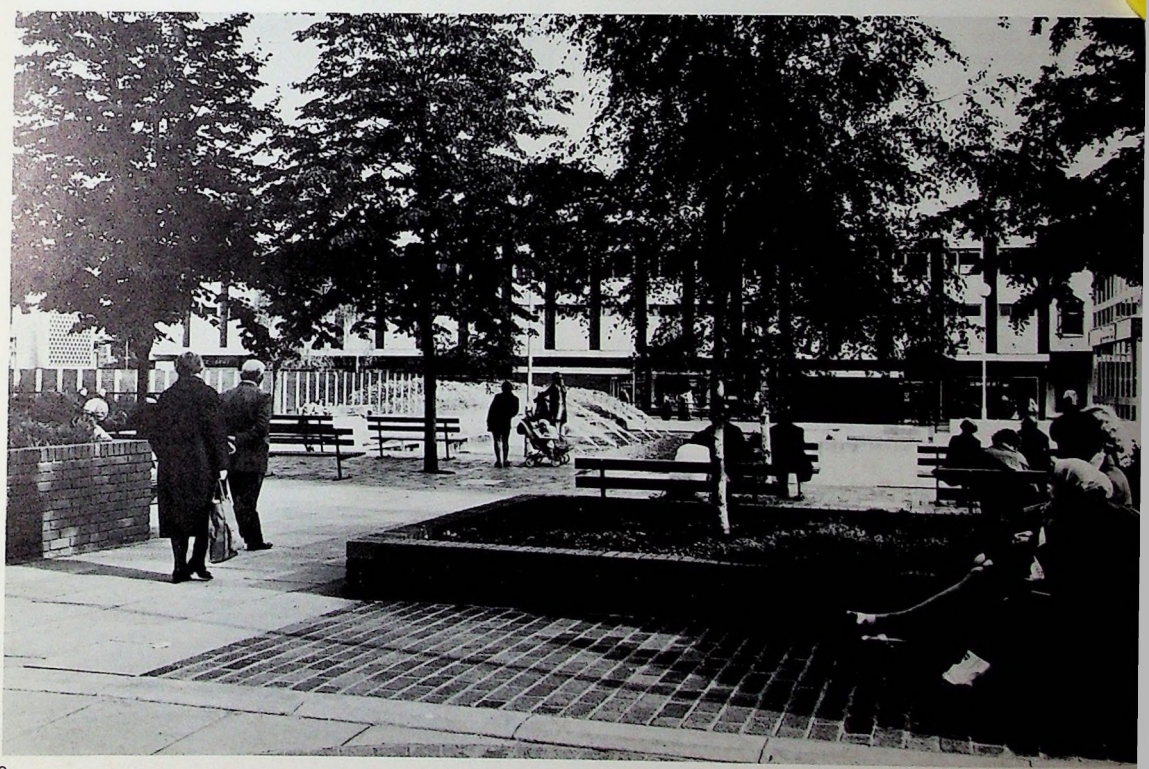
This book sets out to provide information and advice that, it is hoped, will help to create streets that work well and look pleasant. It covers the choice and siting of street furniture; the important, but often overlooked, subject of pavings and other surfaces; advice on the use of trees in the urban landscape; architectural conservation; likely future developments in urban transport and their implications for the street scene; and the contribution that waterways can make to the environment. There is also a section on safety in children's playgrounds, which again involves equipment that is usually bought and maintained by local authorities.

Street Scene is published in conjunction with the Design Council's comprehensive catalogue *Street furniture from Design Index* (price £12.50) which is intended primarily for those who have the job of buying equipment for streets or public places. It lists in detail and illustrates all the designs of lighting columns, bus shelters, seats, litter bins, bollards, poster display units, footbridges, playground equipment and other items that have been accepted by the Design Council's independent Street Furniture Advisory Committee for inclusion in Design Index on the grounds of their sound design and construction.

TOP LEFT Closure to traffic and pedestrianisation. Compare this street, temporarily out of bounds to cars and lorries, courtesy of a makeshift sign, and the highly developed civic scheme in Gloucester's Kings Square BOTTOM with its combination of attractions and facilities for people on foot

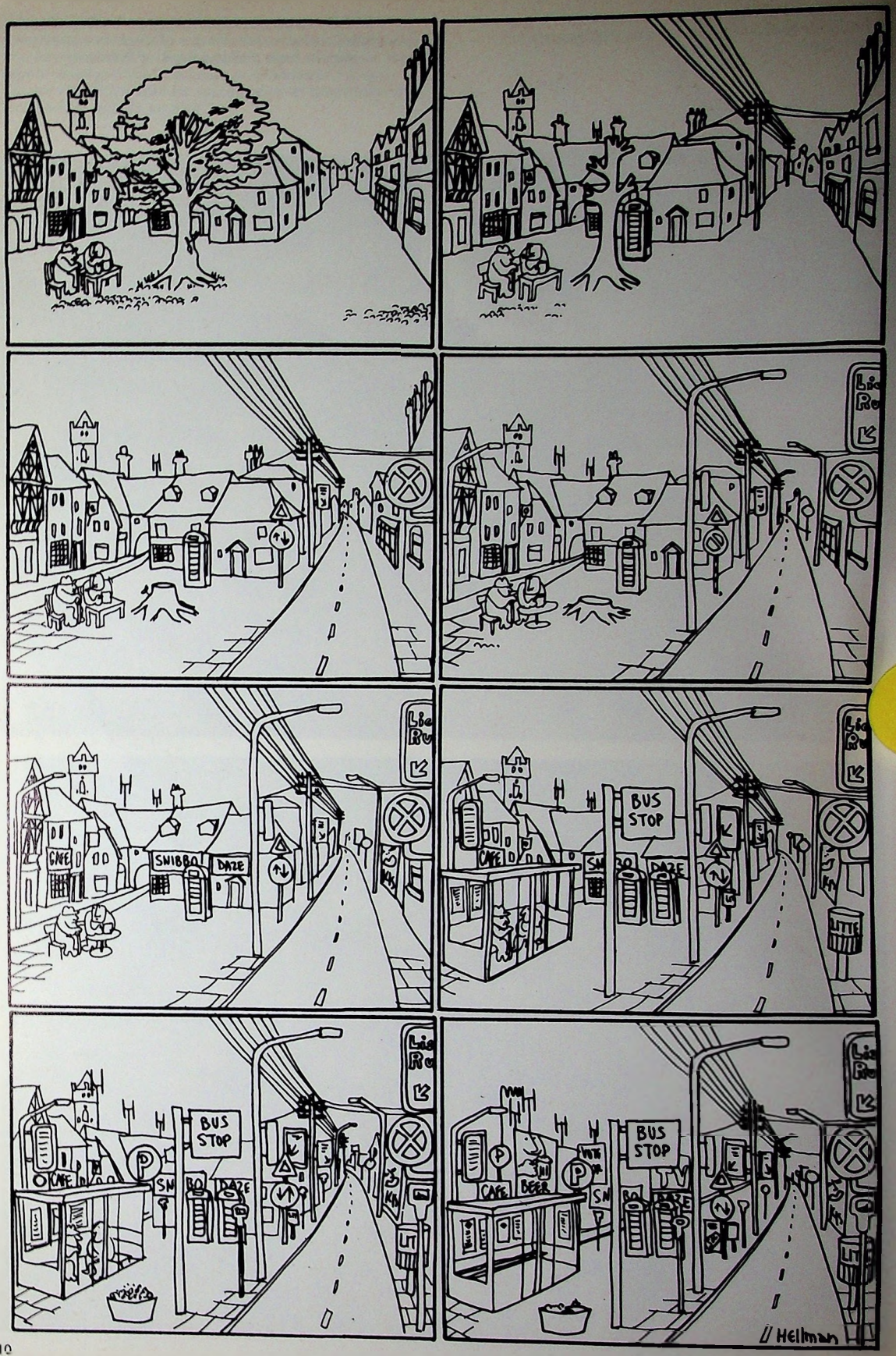
TOP RIGHT Children's playgrounds are an important part of the street scene, but this example in North London looks brutal and dangerous, in spite of the attention it has obviously received in terms of design and construction





TOP Geometric paving textures play an important part in the pedestrianisation scheme implemented in Southampton

BOTTOM The large pedestrian precinct in Kings Square, Gloucester, makes extensive use of water in a shallow pool, as shown here, and in a bank of fountains


SNIBBO
DAZE
BUS STOP
CAFE
BEER
TV
Hellman

Selecting and siting street furniture

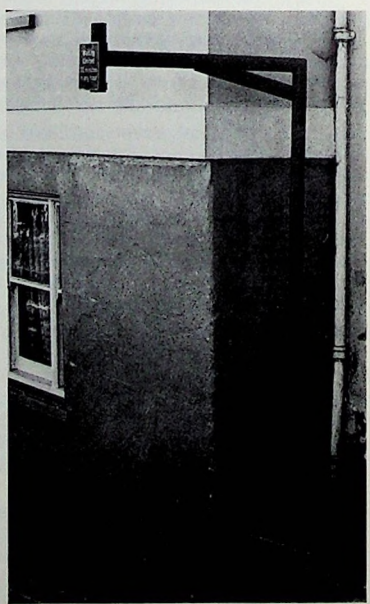
Selecting individual pieces of street furniture is a relatively simple and painless task. Mail order shopping is always enjoyable and in exercising a preference for, say, litter bins with teak slats over bins made from exposed aggregate, a specifier is making a deliberate and legitimate choice between products that, in design terms, are of roughly equal merit. However, the selection of street furniture goes further and deeper than this.

The Design Council's catalogue of street furniture is not a system for ensuring compatibility. Although every item illustrated in it has reached an acceptable standard of design; there is no guarantee that every item will marry satisfactorily with the rest. Indeed, the visual clutter in our streets and cities stems not so much from poor selection of individual components as from the ill-planned and insensitive way in which these components have been jumbled together. Unless the townscape can be considered as a whole, and unless care is taken to harmonise the scale, form, colour and materials of its component parts, the resulting scene will appear ill-considered—no matter how well designed the individual pieces of street furniture may happen to be.

A lack of co-ordination in the street often reflects a (quite understandable) lack of co-ordination within the local authorities themselves. Furnishing a street, although it is a simple enough task on paper, is in fact an immensely complex operation, involving a huge web of semi-autonomous local government departments and public utilities. Thus the lighting officer will want to have a say in choosing and positioning lighting columns; the fire chief will be concerned about exit widths and clearances; the gas board will be preoccupied with laying mains; the county architect will be searching for a space in which trees can be planted and so on. As a general rule, nobody is working to an overall plan.

It has been suggested that it is easier to co-ordinate street furniture than people, and there are obvious arguments in favour of a well designed kit of parts from which a complete co-ordinated scheme can be built up. In the first place, there is less room for error—it is much more difficult to produce a clutter when all the units blend with one another. Secondly, there are obvious advantages from a manufacturer's point of view to be gained from standardisation. Thirdly, a well designed co-ordinated system can actually provide greater flexibility—the specifier is acquiring a set of building components rather than a series of individual products. It is a popular fallacy that by unifying a range of products one is limiting its adaptability: in fact precisely the opposite is true. A properly co-ordinated system of street furniture is immeasurably more flexible than a haphazardly chosen array of individual products.

Signs are an essential part of the street scene, but their prominence makes mistakes in siting particularly apparent. TOP Fixing these signs back to back would have been neater and just as effective. BOTTOM LEFT A cluster of posts where one would have been sufficient. CENTRE The removal of a major traffic sign has left an ugly framework supporting items that should have been resited elsewhere. RIGHT A massive and complicated post supports a tiny limited waiting sign



Specially designed furniture can give a completely individual character to an area, in the manner of these large ring seats around mature trees in Plymouth

However, this is only part of the story. There still remains the problem of adding items of street furniture to existing schemes, as well as that of dealing with more open areas where co-ordination is perhaps less relevant due to the layout and character of the equipment to be used.

While co-ordinated street furniture is regarded as the ultimate in street furniture design, it is not the only solution —except possibly in certain highly complex situations where capital outlay is not restricted. The careful selection of compatible street furniture products is a reasonable alternative—particularly in a situation where other equipment already exists. Total harmony must always be regarded as the key to success of any scheme and therefore the ultimate aim of the designer.

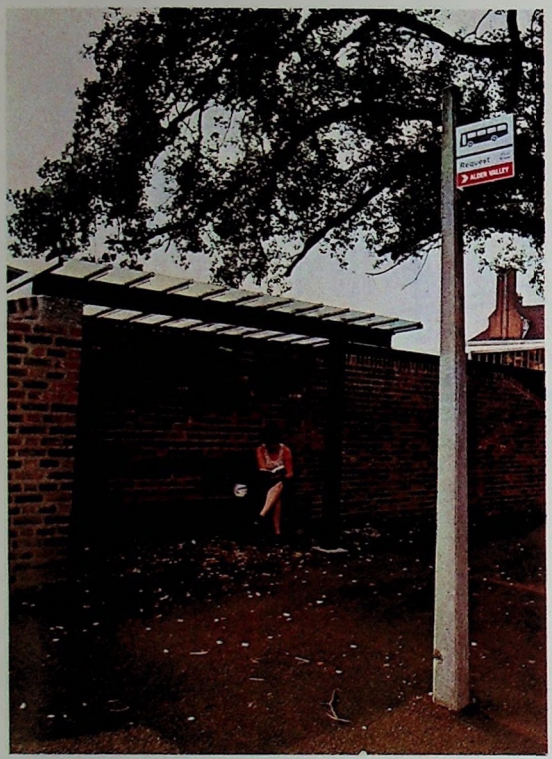
In the same way that a piece of household furniture is selected because of its shape and colour, so street furniture can be chosen according to the rules of scale, colour and texture. Scale is important with regard to the height and width of the space concerned and the relationship to existing equipment; colour with regard to roads, paving and existing architecture; and texture with regard to the building materials used.

Too many examples still exist, unfortunately, of carefully considered buildings or schemes that have been wrecked by the thoughtless addition of visually unsympathetic products. Look, for example, at the excellently thought-out bus shelter in Eton shown opposite. Why was it felt necessary to add a concrete post to support the sign? Apart from the unsympathetic grey colour, it seems to be quite unnecessary (and expensive) to install a post when simply attaching the sign to the shelter would have been just as effective.

It is possible to select and site products well, so that they add quality and distinction to the buildings around them. The scheme in Thames Street, Windsor, typifies the right approach in which thoughtful selection and positioning have created an extremely well organised and restful area, totally in scale with its surroundings, with paving used imaginatively to define the position of the various items of street furniture and trees. Colour plays its part in this scheme and the use of an anonymous charcoal grey has allowed modern lighting columns and lanterns to blend with the old buildings in this area— proving conclusively that it is quite unnecessary to rely on traditional lighting units in conservation areas.

Colour is, of course, an important factor in street design and it is not only the inexperienced who misuse it. A designer may well feel pleased with his choice of bright colours when a scheme is first installed, but the bright yellow litter bins he chose will certainly not look so good after containing chewing gum and sticky wrappers and being emptied daily for six months. Colour must be considered in a practical manner and not just used as a short-term, eye-catching highlight. It is really quite

This bus shelter and sign in Eton are both good examples of street furniture, but they would be even better as a group if they were combined successfully, eliminating the unnecessary post



The street furniture in Thames Street, Windsor, is carefully chosen and grouped together. The effect of the whole scheme is enhanced as a result. Modern lighting blends well with its older surroundings

unreasonable to choose an impractical colour such as yellow for litter bins as a method of attracting attention to them when a conscientious person will automatically try and find one and those who are not so conscientious probably won't bother anyway. A much better solution would surely be to enforce the litter laws more effectively. Schemes vary considerably in size, from small, intimate squares to large open thoroughfares, with or without traffic, and the available range of street furniture designs are quite capable of functioning well within the various situations. Taking the different areas separately, selecting products would seem to be quite straightforward; however, our streets and squares generally intermingle with one another and so it is not often possible for one design to be continued all the way through an area. It is therefore important that one factor in particular—simplicity—is kept in mind when selecting products. There are, for example, many designs of trunk road lighting columns available, with considerable variations in their construction, but the simplest visually— and therefore the easiest to integrate—are the tapered tube designs that use bracket arms without gussets and have spigot entry sections that follow the angle of the bracket arm. Even with such a straightforward item as a lighting column, however, it is still common practice to choose a lantern without reference to the column, and vice versa, often creating an unsatisfactory unit from two otherwise acceptable products.

A good approach to simplification in street furniture design can be seen on page 28 in the illustration of a Paris bus shelter. It is a simple enough structure, but it incorporates information services, advertising, litter collection and a telephone under a single roof, in addition to its primary function of providing weather protection. If each item were installed in the normal way as separate products the cost could well exceed that of this combined structure, quite apart from the visual clutter that would probably result.

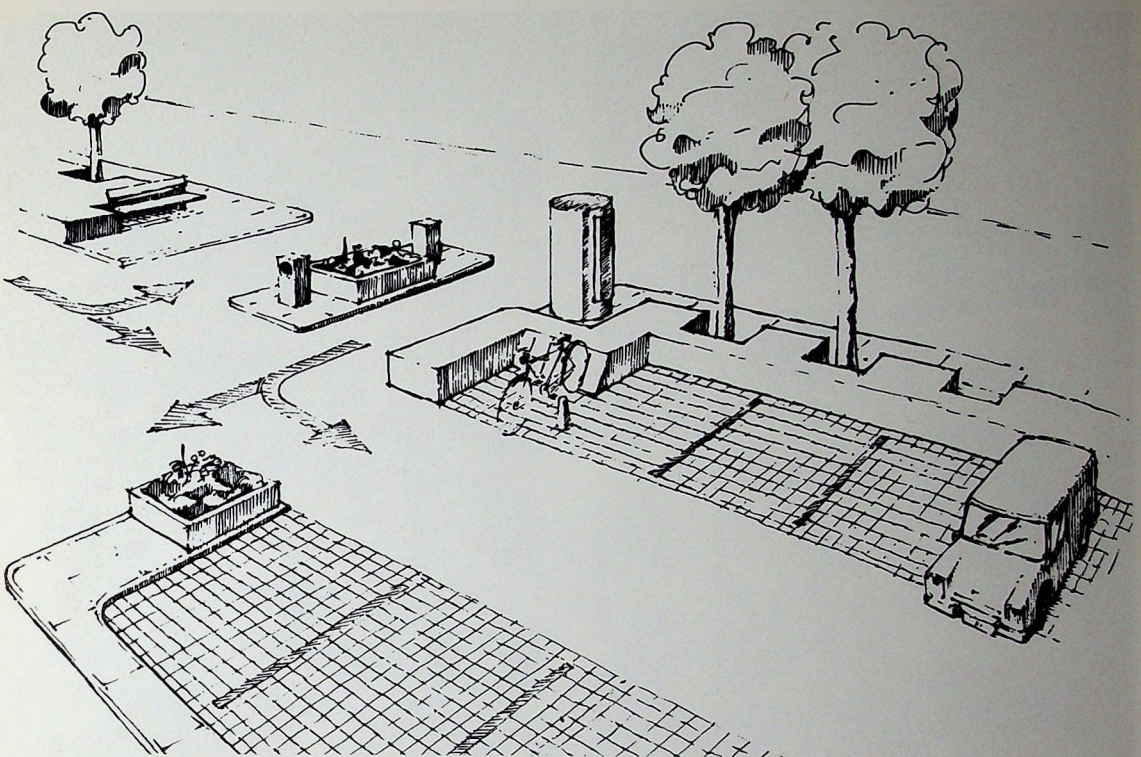
Bad selection and siting will reduce the quality of any scheme, and the more formal the architectural background the greater the intrusion, even if the item is finished in a neutral colour. The handsome Stone Bow, which has now been incorporated in the Lincoln pedestrianisation scheme, is shown on page 18. The picture shows the damaging effect of the litter bin and control box in the foreground—apart from the fact that the control box is not even aligned squarely, both items are visual blots on what is an extremely rigid architectural situation.

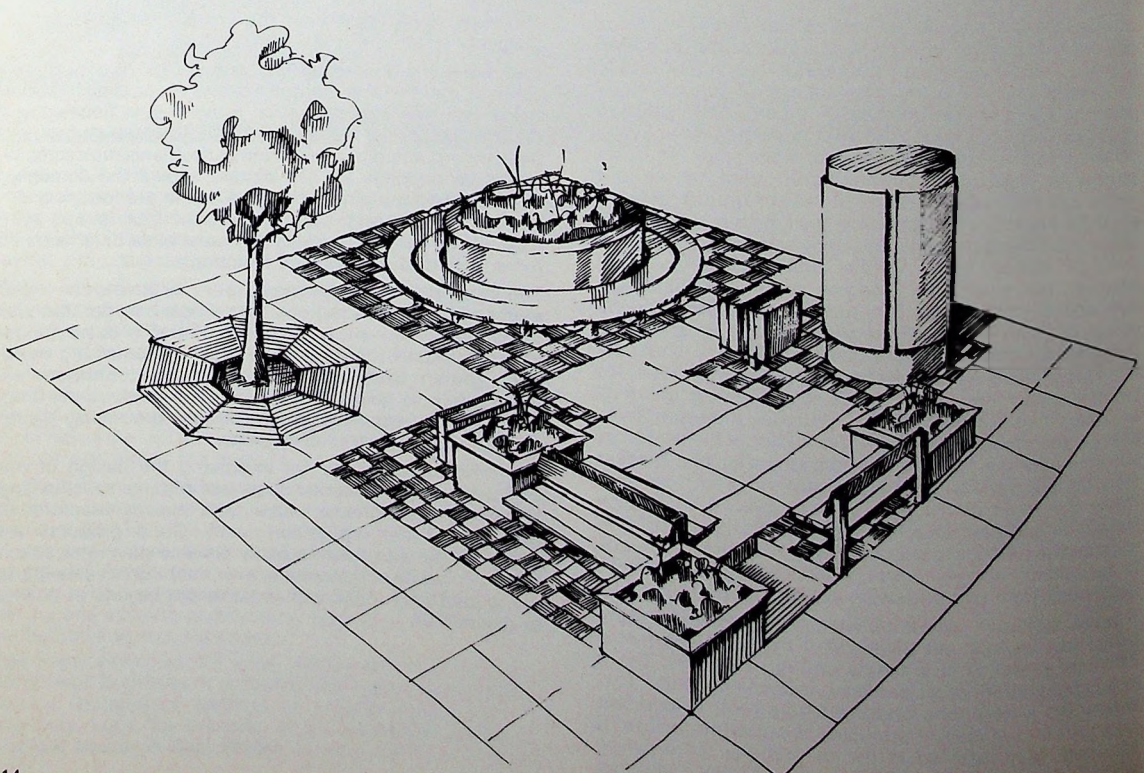
The initial rush to pedestrianise our city streets has led to many compromise solutions. The simple corridor that was once enough to allow the flow of traffic is no longer acceptable and the pedestrian requires something more. Fully grown trees and appropriate street furniture are needed to give height to a scheme and break up the long, monotonous expanses of unrelenting pavement, giving interest to otherwise dull situations.

The final responsibility for improving the design of our cities and towns must obviously rest with the specifier and planner of the scheme rather than the manufacturer or designer of the equipment used. Good products are essential, but site them in badly cracked paving or attach them to chunks of concrete strewn over the pavement and the impact they make will certainly not be one of quality or distinction.

TOP Careful handling of familiar items can make car parks much more interesting. Here raised vehicle barriers rather than fences still allow pedestrian access, the parking areas are well defined by different surface texture, seating is well integrated and mature trees have been retained

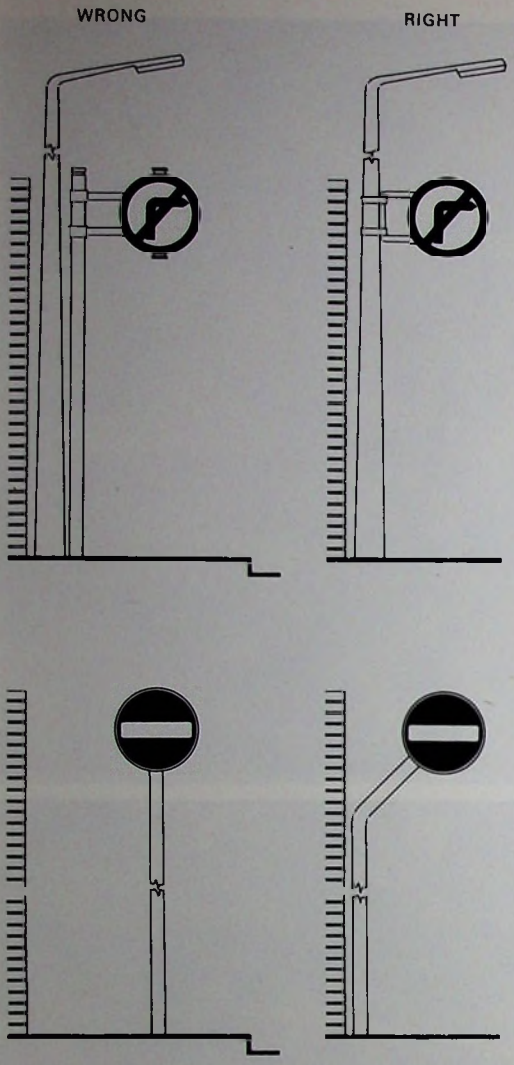
BOTTOM Interest can be created in pedestrian precinct sitting areas by changes in paving pattern, which also define paths and routes without the need for barriers or bollards. Mature trees should be retained where possible and simple containers used to hold flowers and hardy shrubs. The poster display unit is well sited without crowding the seating area

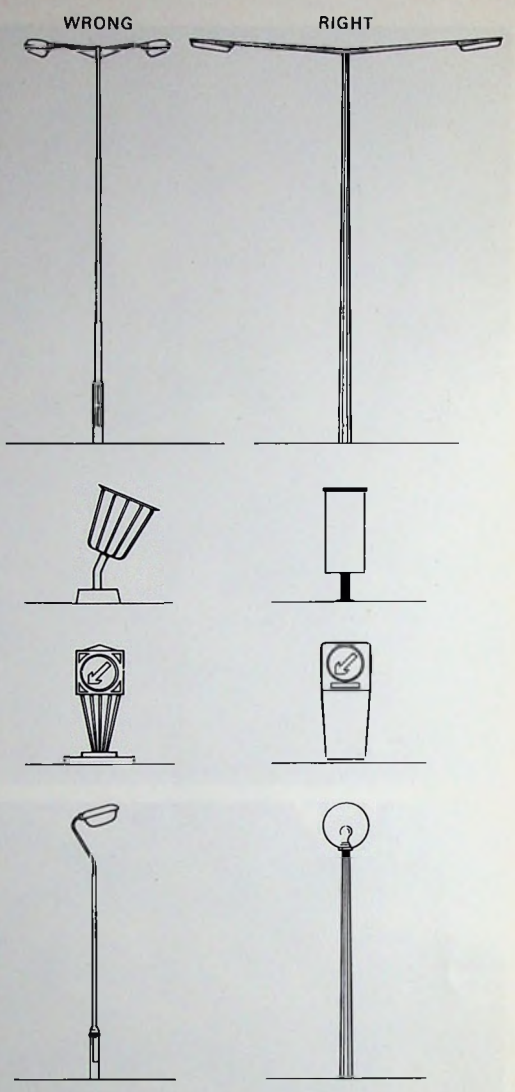


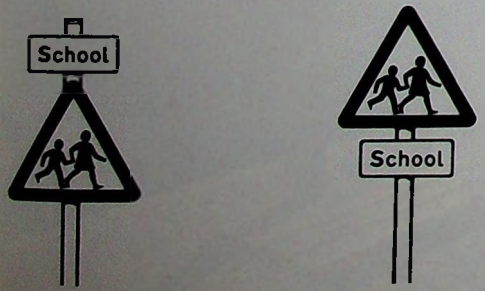


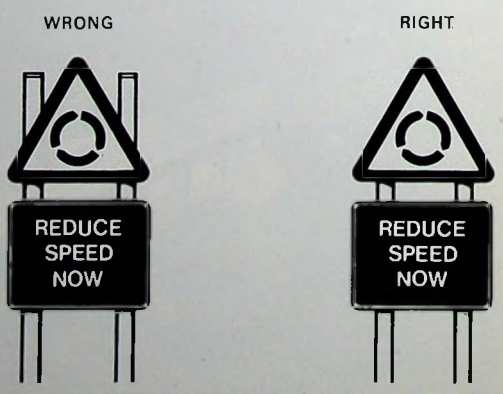
LEFT AND BOTTOM Placing and mounting individual signs clearly and efficiently is most important. The Department of the Environment's Traffic Signs Manual, published by HMSO, should be consulted for further information. Where possible, existing columns should be utilised and care should be taken to place posts away from the flow of pedestrian traffic

RIGHT Trunk road lighting columns, litter bins, traffic bollards and Group B lighting units should be visually as simple as possible, as well as being chosen for their ease of maintenance and resistance to damage



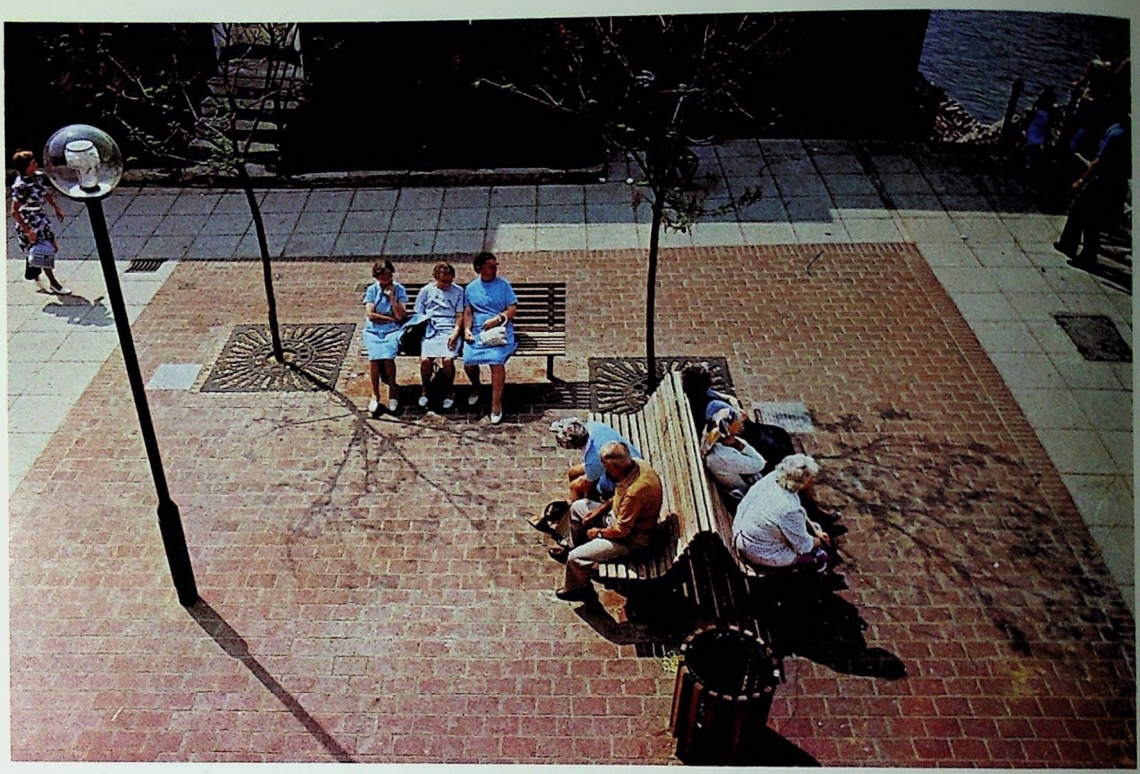


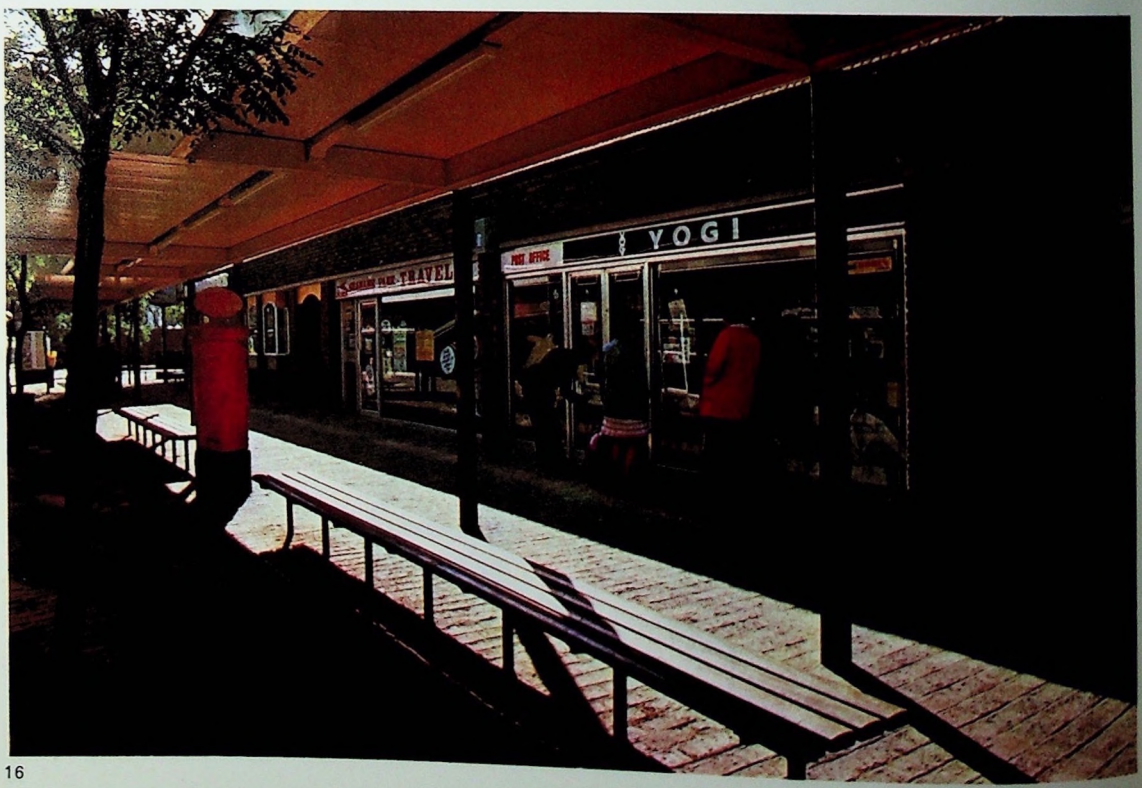




TOP This well thought out group of street furniture in Windsor contains items of equipment that relate well with one another. They are located as a group by a change of paving colour

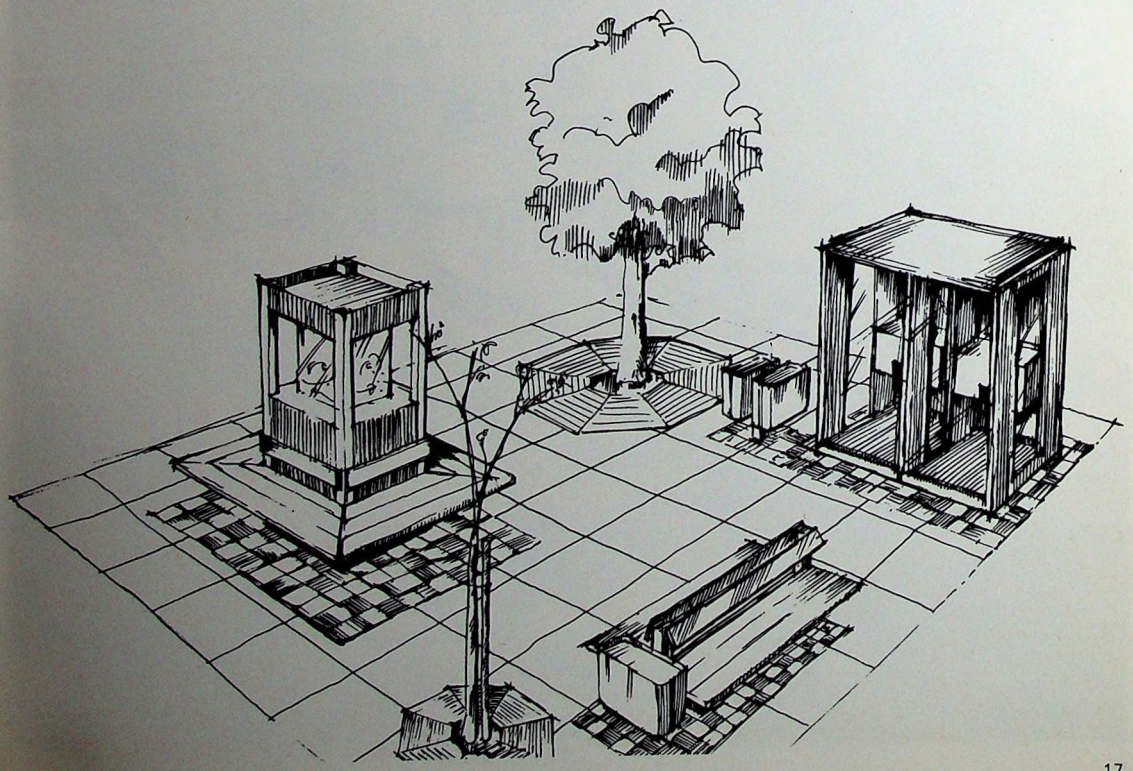
BOTTOM Strong colour is an important and appropriate element in the well ordered scheme applied to this precinct in Grahame Park, North London





TOP Materials and equipment have been chosen to be compatible with the modern architecture of the Hartlepool shopping centre in County Durham. Rough granite setts keep pedestrians off surrounding slopes

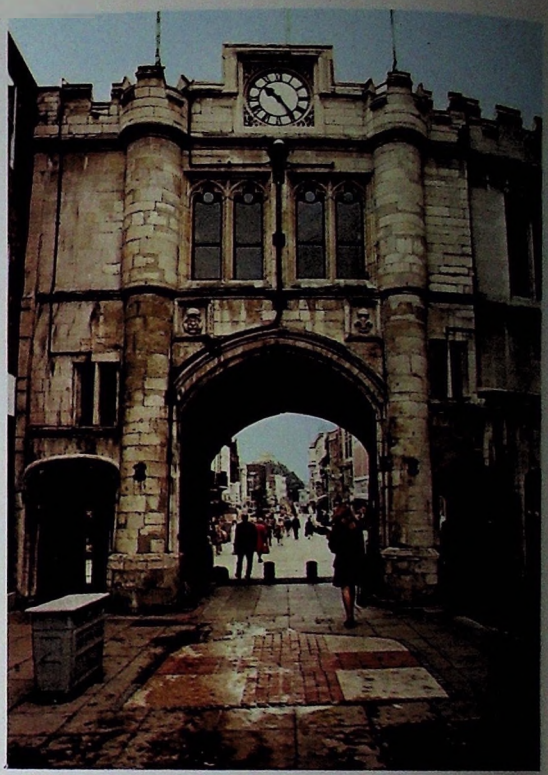
BOTTOM A compact and pleasant group of items of furniture in an open space creates interest and provides a focus of attention. This is an information and working area and no attempt has been made to turn it into a garden, although trees provide shade and variety to offset the regular lines of the furniture

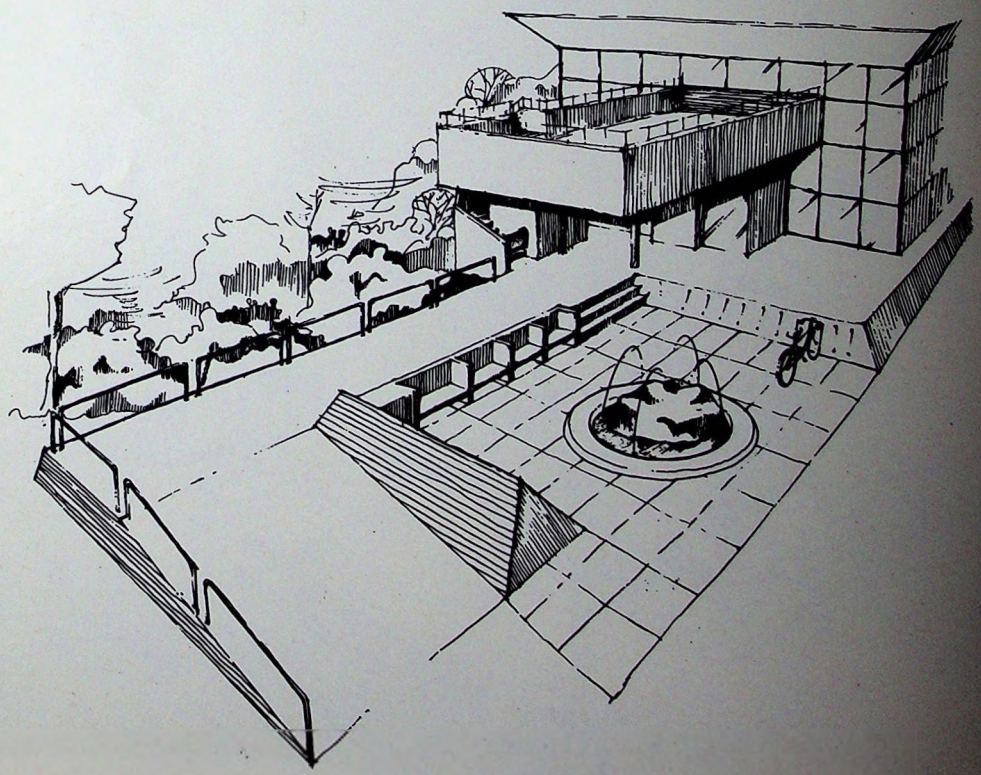


LEFT Brick paving helps to define areas and paths and minimises maintenance on banks in the town square and shopping development scheme at Dumbarton

RIGHT The Stone Bow, High Street, Lincoln, is a major feature in the city's conservation and pedestrianisation scheme. Its impact is spoilt by the ugly appearance of the litter bin and control box in the foreground

BELOW Pedestrians and cyclists are well catered for in this small precinct to Maidenhead Central Library. Interesting changes in level are incorporated into the landscape and a shallow ramp improves access for prams and wheelchair users. A small fountain provides a focus for the scheme





Colour and texture on the ground

An extremely striking hard landscape in brick at the Brunel Estate in West London. This type of treatment is permanent and relatively maintenance-free, but it needs meticulous planning and attention to detail

A combination of stone setts and bollards have been used to break up and enclose this otherwise open and rather featureless space

The ground surface is perhaps the most important single visual factor in the street scene, yet it is also often the most neglected when it comes to consistent and sensitive design and implementation. It is still possible to find imaginative new buildings, or painstakingly restored old ones for that matter, with carefully chosen street furniture, sprouting from a flat and featureless sea of concrete or asphalt—materials that are even more antipathetic in rural surroundings.

Nor are surfaces of this sort necessarily the best choice on economic grounds. They do not last for ever, they are not always maintenance-free, they are generally inflexible and, in terms of real value for money, they often contribute very little to the area as a whole—rather the opposite, in fact.

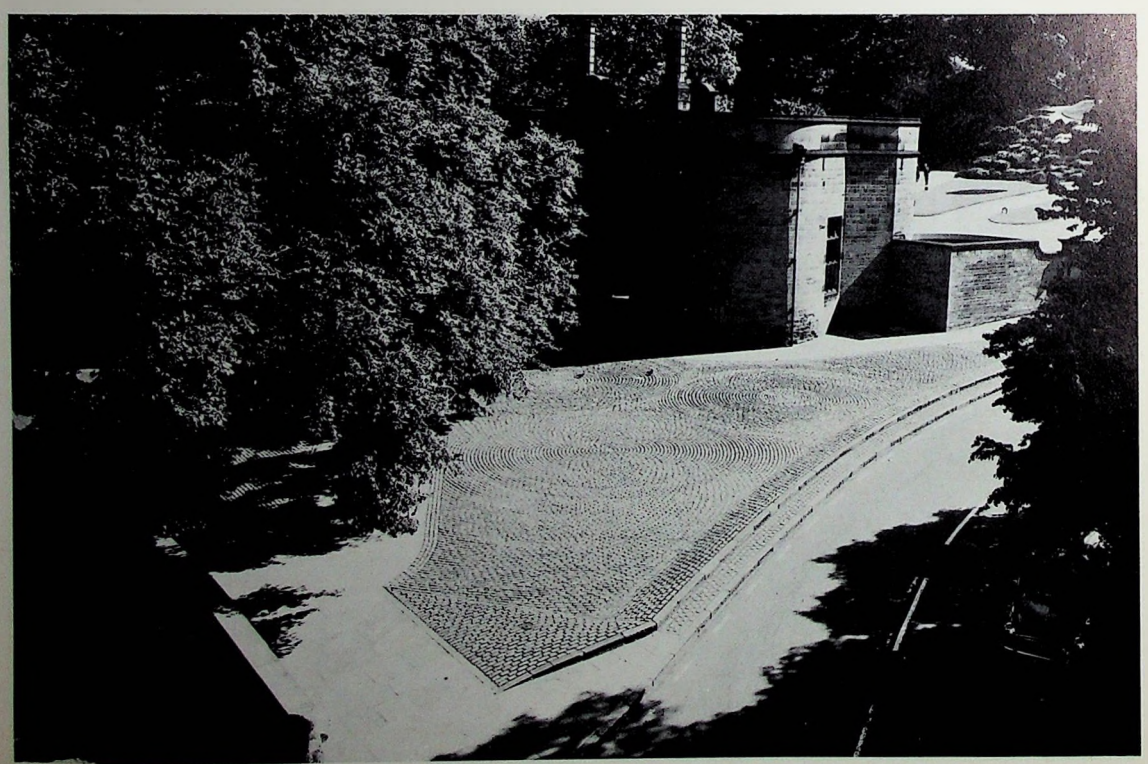
There are hundreds of other practical and appropriate ways of designing colour and texture into ground surfaces, as well as into adjacent low-level walling, which is often a visual continuation of the ground surface itself. Bricks, setts and paving can all be used, singly or in combination with one another, to provide interest through contrasting size, texture and colour. The use of local materials can often help to ensure that the surface as a whole remains true to the character of an area.

These materials all have the advantage of suggesting a human scale. People on foot do not behave in the same way as motor traffic and they should not be forced to. In fact, ground surfaces constitute much more than just a visual feature—they can actually suggest ways in which a particular space should be used by identifying areas for traffic, areas for relaxation, focal points, and so on. More than this, they can even suggest the speed at which these things should take place and give a direction to activity.

This means that, not only must ground surfaces be considered carefully as part of an overall scheme, but also that the functions of the space must be taken into account right from the start. Contrast and emphasis for their own sake can all too easily get out of hand and produce an irrational, busy surface that distracts when it should direct and confuses where it should inform. Paving should also always be more simple than the buildings it complements and there are good reasons for aiming at as much consistency as possible within even a large area, at least in the materials used. It is always a mistake to attempt too much in a small space and to forget its relationship to the area as a whole.

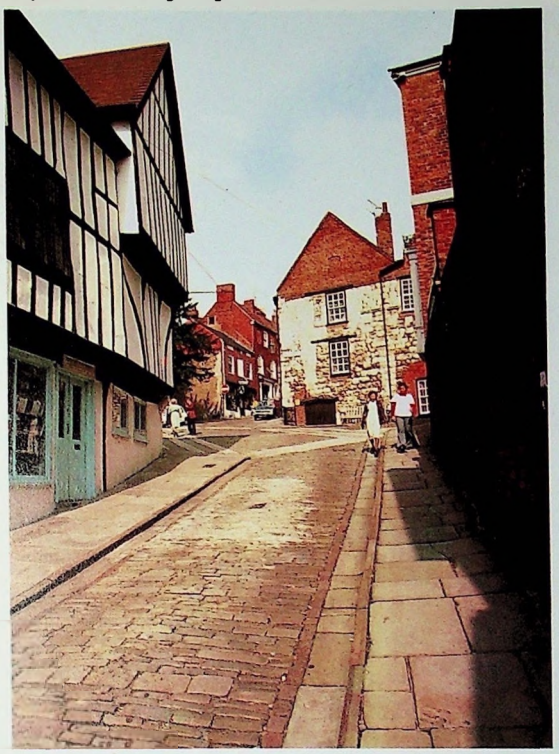
And, of course, there remain the practical considerations of drainage, underground services, tree planting and the like. These all need to be considered, as do the needs of special groups of users, if the scheme is to be successful over a period of time and for people as a whole. It may be worth leaving some room for flexibility to take care of future development or changes of use. There is seldom likely to be a single, best solution—kerbs or steps and wheelchairs, for example, simply do not mix and a rigidly interpreted scheme is likely to be boring.

These two views of the forecourt of Nottingham Castle, taken before and after repaving, show the enormously improved appearance that resulted from replacing asphalt with geometrically laid setts and paving, together with the removal of a number of ugly and inappropriate barriers and signs



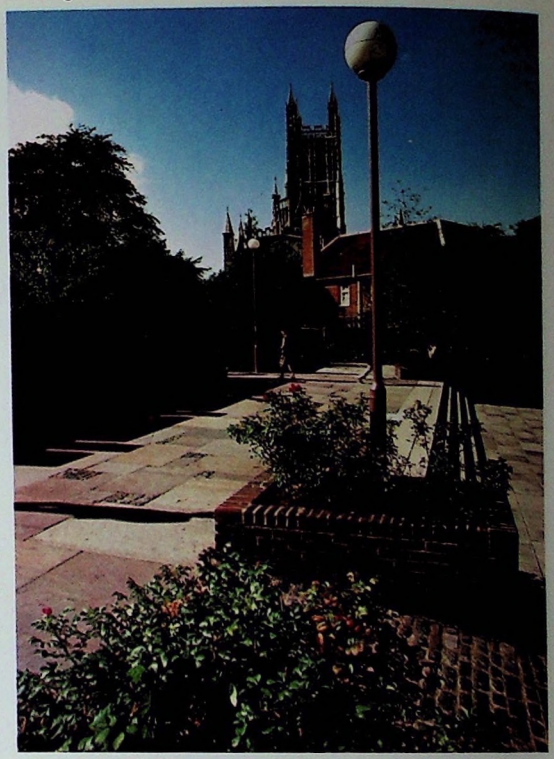
TOP LEFT The mellow colours and textures of this street in Lincoln match the mixture of vernacular architecture perfectly and would be hard to improve upon using modern materials

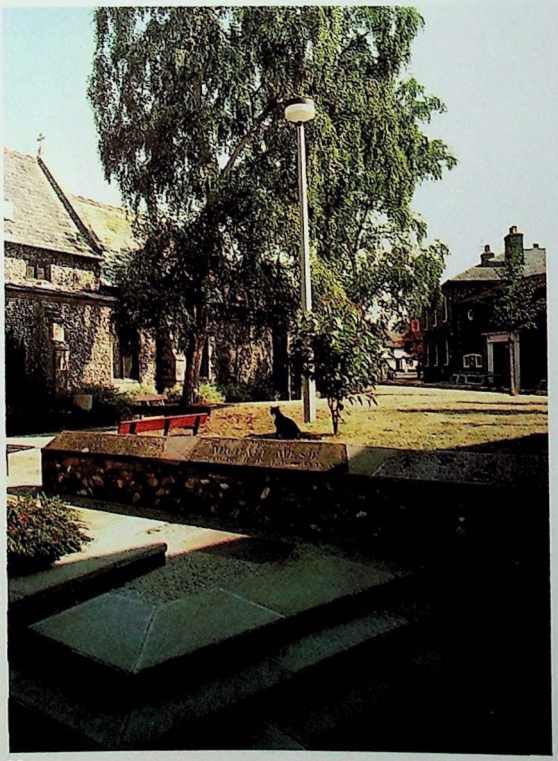
TOP RIGHT Contrasting textures for paving, planters, steps and a useful ramp combined with simple and elegant modern lighting near Gloucester Cathedral

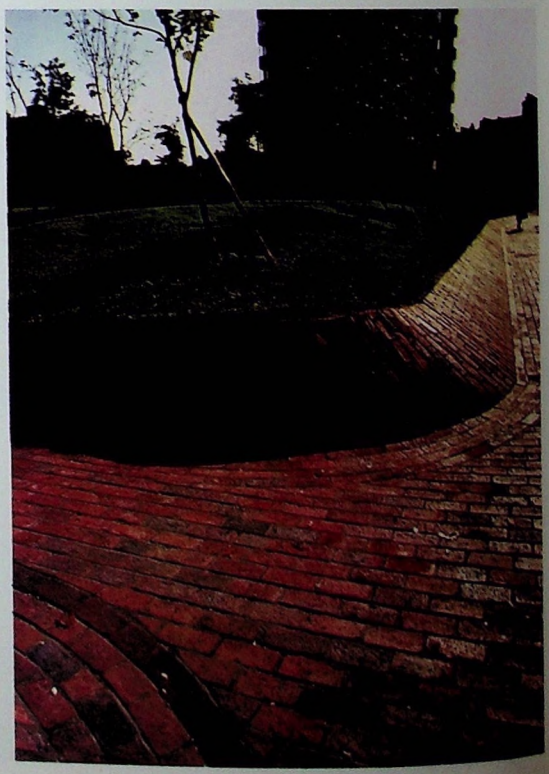


BOTTOM LEFT St Cuthbert's Church, in the centre of Thetford, has been closely integrated into the surrounding pedestrianised streets by removing boundary walls and extending paving, which contrasts with the rough flint walls in texture and colour

BOTTOM RIGHT Smooth brick paving and sloped, curving banks are a feature of the Brunel Estate





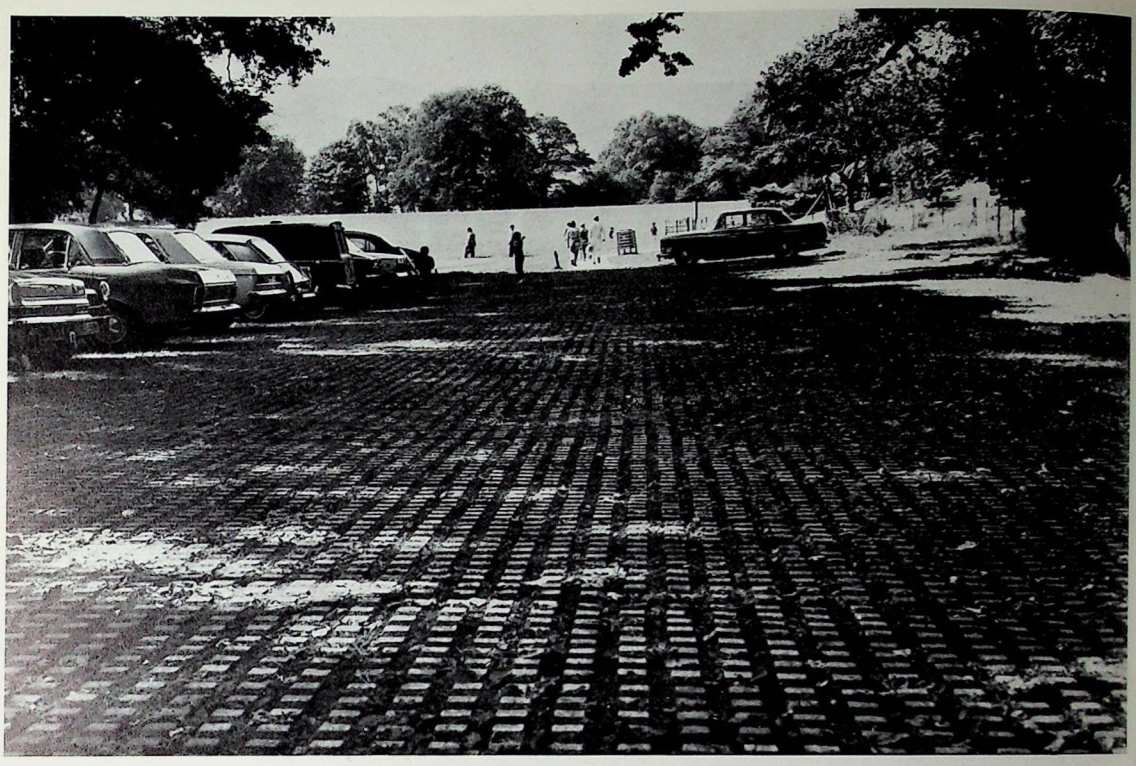


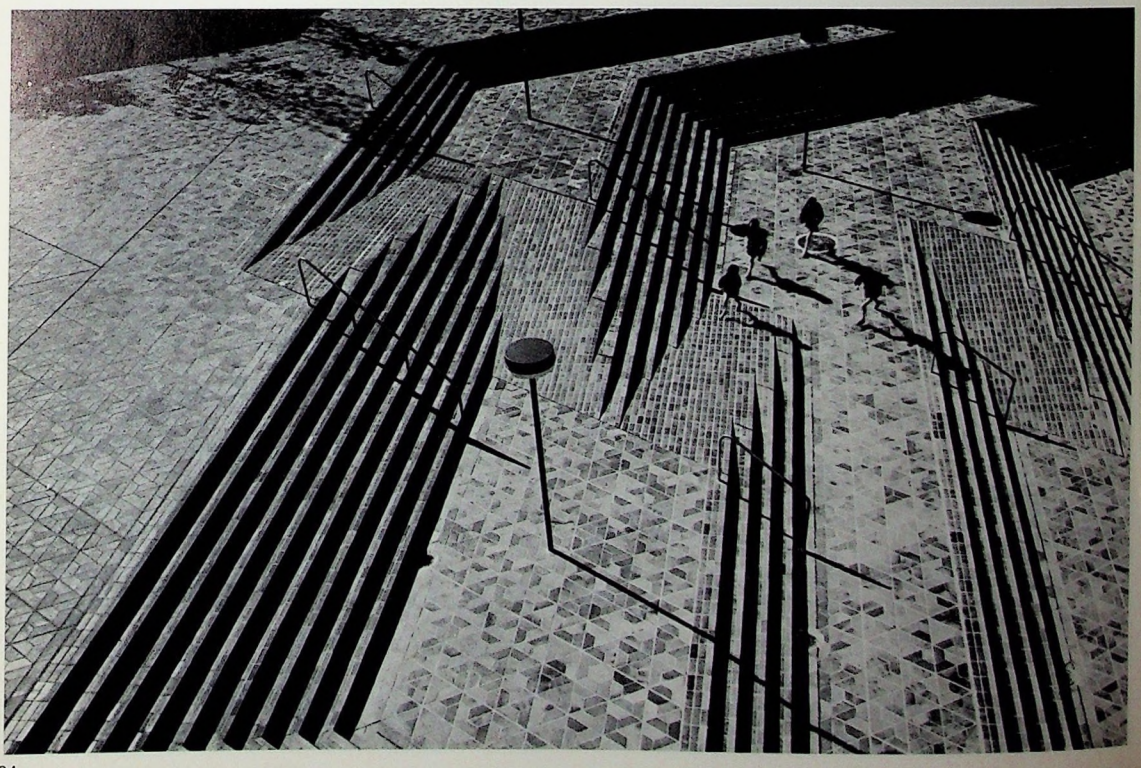
TOP A pedestrian walkway zigzags through an undulating sea of brick incorporating public lavatories in this unusual scheme in King's Square Gloucester. Rectangular planters break up the smooth brick surface

BOTTOM A circular theme is carried through paving, planting and seating in this part of the pedestrianisation scheme covering the central core of Nottingham. Common themes of this kind can help to unify complex street patterns and changes of level

TOP Car parking areas need not be seas of concrete or tarmac. This type of concrete paving allows grass to grow through it and has the effect of blending into the surrounding landscape. This installation is in the Lake District National Park

BOTTOM The forecourt area of Sunderland's town hall and civic centre contains extremely sophisticated changes in level with steps and slopes using brick-faced stair treads and geometric paving

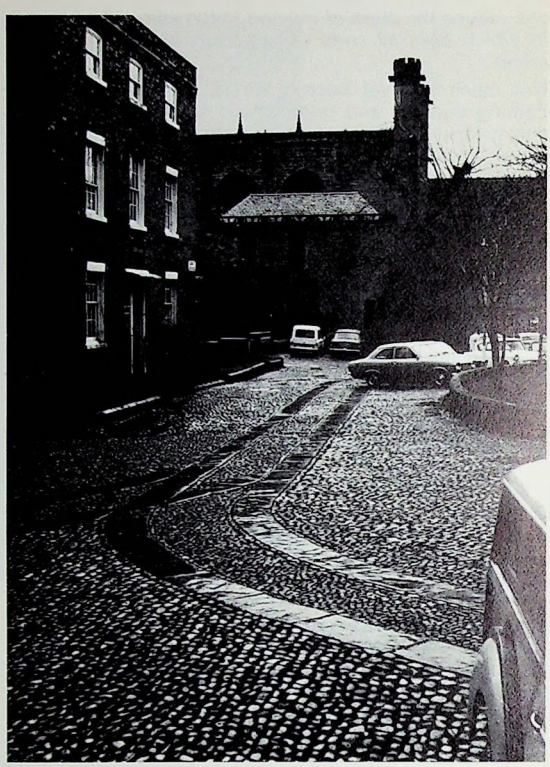




Transport and the changing street scene

by Terence Bendixson, author of *Instead of Cars*

Well maintained cobbles in this square in Chester reflect the traffic needs of an earlier age



Transport strongly influences the shape of streets and the equipment in them. Seventy-five years ago a typical main road in Sheffield or Southwark was lined by gas lamps and paved with cobbles. Tram lines ran down the middle of it and there were occasional drinking troughs for horses on each side. Side streets running into such a main road might be paved and lit as well but that would be all. By our standards the amount of activity in all but a few exceptional thoroughfares would have been incredibly low; an infrequent builder's handcart or a dray bearing coal, beer or luggage would have trundled past but virtually all other movement would have been on foot and inconspicuous.

All this began to change with the coming of the motor car. New kinds of urban roads started to appear in the 1930s. Dual carriageways lined with flowering cherries and cycle tracks were followed by the first urban motorways in the 1960s. Traffic signals and Mr Hore-Belisha's orange lollipops appeared in the 1930s, to be augmented in our own time by signs on overhead gantries, parking meters, yellow lines, safety railings and a small menagerie of road safety animals with names like Panda and Pelican.

More recently there have been the first signs of a counter-offensive against the invasion by the car. Road projects have been cancelled, thus reducing the scope for the growth of motoring. Pedestrian precincts have been created, enabling the skills of landscape architects to be deployed on the highway. Residents' parking schemes have been introduced to keep commuters at bay with the help of ominously ticking automats to dispense daily licences.

What other changes could lie around the corner? The first of them is not a new development at all but a continuation of a trend that is already with us—the improvement of conditions for pedestrians. These have already changed markedly for the better since 1966 when accidents to people walking in the streets reached a peak of over 85,000. At that time accident prevention was merely one of several objectives pursued by local authorities, alongside improving traffic flows and road maintenance.

Since then some highway engineers have been prodded away from their obsessive interest in wheels and motors and have started taking an interest in people. In a few cases road safety has become a pre-eminent concern. Pedestrian precincts have been one result and have improved both the safety and the appearance of streets. Kerbside railings have been no less effective in reducing accidents but their proliferation is a source of ugliness.

Assuming, as I think one can, that concern for safety will continue to grow, several developments seem probable. Existing precincts are likely to be extended in the form of streets accessible only to buses, taxis and delivery vans and to have their pavements widened to encourage pedestrians. It may also become common to re-design inner-city residential streets so that they cease to be traffic thoroughfares and parking lots and become outdoor living spaces or what the Dutch call 'town yards'. These and other measures are likely in turn to be put together to make town-wide networks of safe and attractive footways designed to suit the needs of people moving at two or three miles an hour rather than motor traffic moving at thirty.

The partial closure to traffic of London's Oxford Street exemplifies the first of these three kinds of development, even though it is not an extension of a precinct. Semi-precincts of this kind were unthought of even five years ago but they can now be found in this country in Newcastle upon Tyne, Leicester and Reading, and abroad in cities such as Zurich and Minneapolis. Changes to both traffic management and street architecture are involved. Traffic regulations are used to exclude vehicles that carry few people compared with the space they demand while allowing free access to those with the opposite characteristics. In effect this means saying 'no entry' to cars and 'welcome' to buses, taxis and bicycles. Motorbikes get excluded along with cars because they are noisy and a threat to pedestrians. The street architecture and furniture of a semi-precinct include paving, planting and facilities for pedestrians that break down the appearance of a *rue corridor* devoted to transport and promote conditions that are conducive to the exchange of information and goods.

Admittedly Oxford Street is still in a temporary, experimental and tatty state. Nicollet Mall in Minneapolis in the American middle west, with its serpentine roadway running between broad pavements planted with trees and equipped with fountains, seats and an ornamental clock, shows the same animal in a highly developed state.

Either way the effect on the driver as well as on the pedestrian is profound. Every element in the design of Nicollet Mall announces to drivers that they are trespassing in an outdoor room—that they should not really be there with their steaming machinery and that, if they must be, they should go carefully. Meanwhile the pedestrian is receiving signals that say linger, do business, enjoy yourself, sit down and watch the passers-by.

So far this kind of treatment has only been accorded to high streets in town centres, but shopping streets strung along main radial roads offer the same potential. Everything depends on what treatment is accorded to motor traffic: is it to be allowed to ebb and flow without let or hindrance—in which case not much can be done to improve the lot of people on foot—or is it intended to try

Nicollet Mall in downtown Minneapolis, with its serpentine roadway, broad pavements, trees and plants, is an example of a highly developed pedestrianised street. Perhaps this might be the shape of things to come for London's Oxford Street

and reduce the press of moving traffic and parked cars—in which case all sorts of opportunities present themselves?

Not much has yet been done to reduce road traffic. Parking controls and meters have been introduced but only to keep commuters from using space that can be used many times over throughout the day by shoppers and people on business using cars. As a result traffic in the inner parts of bigger cities and the centres of smaller ones tends increasingly to consist of a day-long plateau of intense activity rather than two rush-hour peaks with a trough of calm in between.

But signs of change are in sight. Places such as Singapore, Bologna, Uppsala, Besançon, Nagoya, Nottingham and Oxford are all moving in the direction of policies that will lead to overall reductions in traffic. And at a conference at the Organisation for Economic Co-operation and Development in 1975 officials from 23 countries lent their support to a statement saying that 'where and when traffic congestion and its costs are severe and frequent, measures to reduce the use of private cars and goods vehicles and to improve alternative forms of transport should be introduced'.

The government of Singapore has gone further and announced its intention to discourage not just the use but the ownership of private cars, while at the same time taking steps to improve public transport. The unthinkable has already happened—although admittedly in a polity very different from those of Western Europe.

The future of the street scene and its equipment will be greatly affected by decisions on whether or not to limit the use of cars. In Nottingham, for instance, where preferential treatment is being given to buses, bicycles and emergency vehicles, a small army of additional traffic signals and signs is involved. In Singapore, on the other hand, scarce resources of road space are being allocated by means of economic rather than physical controls. Drivers wishing to take their cars into the city centre in rush hours have to buy supplementary licences for their vehicles. They are warned of this by means of signs mounted on gantries above the roads leading into the city and can buy daily or monthly licences at road-side kiosks.

Given this sort of restraint on the use of cars it is possible to envisage main roads with wider pavements and reduced parking, together with more frequent bus and taxi services over wide areas of cities. Wider pavements would provide room for more trees, shrubs and flowers, as well as leading to developments in the technology of paving materials. Rubber tiles have already become common in railway concourses and indoor shopping centres; coloured plastics tiles are in use in Carnaby Street; paving slabs designed to have low splash characteristics and reduce spotting on stockings are in use in Oldenburg in North Rhine Westphalia.

Over the past 100 years it has become conventional to design residential streets according to the rules dictated primarily by the requirements of vehicles. The potential of local streets to fulfill roles other than those of vehicle ways has been progressively discounted. In Delft, however, the authorities have re-designed some small side streets as town yards, obliterating the distinction between the pavement and the road. Cobblestones are laid wall to wall, as in a London mews, in order to create an atmosphere conducive to sitting in the sun, chatting and playing for young children.

Cars are allowed to enter these town yards but they have to creep between close-set bollards and over mounds that

In Singapore, drivers have to buy supplementary licences by the day or month in order to take their cars into the city centre. Scarce road space is allocated by means of tight economic controls

are not so much sleeping policemen as pillows of pavement. Bicycles, however, can come and go at will.

In theory the combination of reduced traffic and better arrangements for people on foot could lead to town-wide networks of attractive pedestrian routes. Such developments are taken for granted in new towns and in some places, such as Glasgow and Stuttgart, progress has been made towards town-wide parkways. In Stuttgart green links have even been created between adjacent parks by bulldozing rows of houses. 'If it can be done to build a motorway for driving, why not to allow a freeway for walking?' the Stuttgart authorities seem to have asked. This is just one illustration of the opportunities for landscape design and rethinking the role and equipment of urban routes that would result if public authorities began to take movement on foot as seriously as they do movement by vehicles.

Yet it would be absurd to suggest that the future of urban transport lies solely with limiting the use of cars and better arrangements for pedestrians. It must include improved public transport and, in a small way, it is also likely to mean a safer deal for cyclists, as some local councils such as Portsmouth, Oxford and Swindon have already acknowledged.

Measures to reduce the use of cars automatically lead to improved bus services. Not only does reduced congestion enable buses to move faster and make more trips in the course of a day, but diverting travellers from cars to buses improves the cash flow of the transport company so that it can modernise its equipment.

Bus shelters are one area of ancillary equipment that is overdue for modernisation in most cities. Some shelters in Paris already incorporate location signs, travel information, public telephones, seats, advertisements and litter bins in a well thought out whole. The next step might be the provision of real-time information about the arrival of the next bus. Such information, which users of lifts take for granted, would be a by-product of the telemetric equipment beginning to be used by bus managers to keep track of their vehicles. Once this sort of knowledge is available at a control centre, only expense is likely to stand in the way of having it displayed for waiting passengers.

All this will tend to make the bus stop an increasingly bulky, costly and complex installation. There is even a remote possibility that travel automats may begin to appear at some bus stops in future. It is well-known that people have difficulty making use of unfamiliar transport networks and this has led to the introduction of route maps that light up at the touch of a button at stations on the London Underground and the Paris Metro that are much frequented by tourists. And in New York visitors to Times Square during Bicentennial Year can interrogate an automatic tourist guide designed as a pavement kiosk by Michael Lax. Something similar might be useful for bus travellers.

Even better than automated travel information is a chauffeur who takes you where you want to go. No worries about pressing buttons; no problems with understanding diagrams or maps. That remarkable piece of technology is none other than homo sapiens and he is at the heart of the only new form of urban transport to come into widespread use during the past five years. It is called dial-a-ride. You take a minibus, put a radio telephone on board and advertise door-to-door shared taxi transport for anyone who cares to ring up and book it. And because many households do not have telephones it is not uncommon for the operators of such services to provide free telephones on the pavements in the areas they wish to serve, thus further enriching the suburban street scene. Services of this kind, complete with free telephones, are in operation at Harlow and Milton Keynes.

The idea of running vehicles overhead where they cannot get bogged down by congestion has appealed to engineers since well before the turn of the century. It appeals to their financial advisors too since it is quicker and cheaper to build viaducts than tunnels. The elevated railways of New York, Chicago and Paris are examples of this kind of thinking, and with rubber-tyred trains now swishing along Line 6 of the Metro one can see how quiet and unobtrusive the modern overhead railway can be.

Nevertheless, the rooms that inquisitive travellers can look into as they take the Metro from Passy to La Motte Piquet have their privacy eroded and their view obstructed by the trains and viaducts, and at stations the obstruction is

This bus shelter in Paris incorporates a whole range of information and services for the traveller in a single, well thought out unit

A co-operative club in Amsterdam has the use of 35 battery-powered bubble cabs that can be hired from recharging ranks by the side of the road. Members of the club can take and leave cabs at any rank throughout the city and the scheme is expanding

doubly bad. This is a problem that engineers have so far failed to overcome and it explains the lack of enthusiasm that greets proposals to install overhead transport systems in existing streets. Certainly these difficulties killed all support for installing 'cab-track'—little driverless taxis running on overhead tracks—in central London following studies done by Robert Matthew, Johnson-Marshall for the Transport and Road Research Laboratory in 1970. Despite the elegant, boa-constrictor dimensions of the track it was unacceptable when snaking down a narrow street or when swinging up and over a multi-level elevated flyover at Oxford Circus. Since then the TRRL has expanded cab-track into 'minitram' with larger cabins and tried to fit the result into the centre of Sheffield, but problems of cost and intrusion remain and the Government has decided not to finance the project.

Governments in France, Germany, Canada and the USA have likewise lost their earlier enthusiasm for automatic overhead urban transport and are looking instead at systems that are lower in cost and less dependent on aerospace technology. The possibility still remains, however, that, come the 1980s, something will begin to be seen of a new generation of transport systems.

One project that is going ahead is a bony lattice tube designed by architect Brian Richards and engineer Peter Rice to carry two travelators above the pedestrian deck at La Defense, a huge commercial centre being built just outside Paris. No problems of combining new with old exist here. The moving pavements are set in a thicket of skyscrapers and, like so many other transport systems before them, they play a part in assisting the exploitation of the site. Perhaps comparable opportunities exist in London in the up-river docks and in the former railway lands behind St Pancras Station. If they do, then any travelators or cabin transport systems are likely to be related to routes for pedestrians and to be designed to extend the range of people on foot.

If an overhead system acting as a feeder to the Underground as well as a local movement system can be made to work within such a new-town-within-a-town context then, and only then, might it begin to send runners out along appropriate surrounding streets and so into the city as a whole, rather like some giant strawberry plant.

It remains to consider one transport development that does make use of the streets as we know them and that could bring about dramatic changes in the urban scene. As Alan Bieber pointed out in 1969, the car as we know it was never intended for town use; it was designed for trips between towns and in the country. It is therefore not surprising that the noise and fumes that result from the kind of engine needed to achieve high speed and endurance are, even in mini-car versions, unsuited to towns. A purpose-made car, on the other hand, would be a slower and quieter vehicle that would be easy to get in and out of, economical of space when parked, and designed to give the driver the highest possible level of visibility.

Many people have tried unsuccessfully to design such a vehicle on the assumption that the solution lies in changing the engineering of cars as we know them. The result has been electric vehicles that are well suited to town use but are no good for weekend or holiday trips and thus are unsuited to the needs of the average household which can afford only one car.

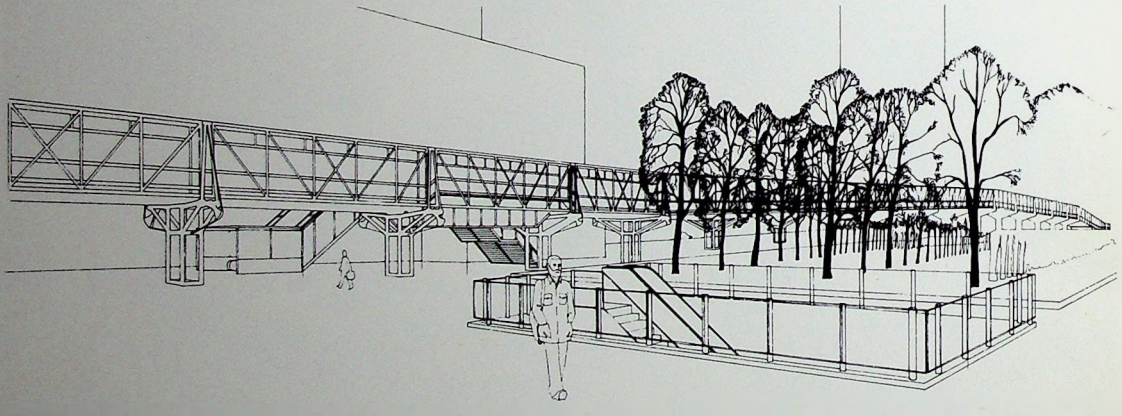
Professor Les Fishman of Keele University therefore argues that it is necessary to change the economics, as well as the technology, of cars if they are to be adapted to city use. In particular he suggests that it is necessary to switch from owning all-purpose vehicles to hiring self-drive ones designed to suit the very different conditions of town and inter-city driving.

The result would be to create a market for, among other things, a car with the 40mph speed and the 50 mile range of the battery-powered Enfield 8,000 cars being used by the Electricity Council. Town cars of this type could be used from 40 to 100 times per week with the 10 to 15 trips per week made by the average family car. This higher utilisation would cover the higher capital costs of battery cars and enable parking in the streets to be reduced or even eliminated.

Amsterdam is the only place where this ingenious set of ideas is being tested. The man responsible is Luud Schimmelpenninck and he has set up a co-operative club

TOP Rubber-tyred trains on Line 6 of the Paris Metro have greatly reduced noise levels, but problems of reduced privacy for occupiers of nearby houses and general visual intrusion remain

BOTTOM Twin moving pedestrian travelators in lattice tube housings at La Defense, on the outskirts of Paris, have been designed to exploit the possibilities of the site to the full by extending the range of people on foot



that has put 35 battery-electric bubble cars into use. Members of the club are issued with electronically coded keys that enable them to request a ride from automats at special ranks where the cars have their batteries charged. These ranks, which are due to be increased from five to fifteen during 1976, consist of a narrow roadway surrounded by pavement. The roadway acts as a track and positions the cars so that they make contact with a conductor rail mounted safely out of reach overhead. Drivers using the cars take them at one rank and leave them at another, thereby ensuring that the batteries are constantly topped up, though they can, of course, make stops along the way as well.

Schimmelpenninck hopes to see electric self-drive cab ranks installed at 400m intervals throughout the inner parts of Amsterdam, with private cars banned from parking on the streets. No other present-day transport experiment promises to work such a marked change on urban street conditions. Acres of outdoor urban space that has been stolen for parking could be freed for walking, sitting, children's play, bicycling, market stalls and trees. Noise and fumes would be drastically reduced and accidents would be cut too. People would be able to get about on foot and by bicycle, and by tram, bus or taxi. They could also hire safe, slow, electric self-drive cars for town use and conventional cars for longer distance journeys. Townspeople would have the choice of owning a car or doing without one. Town living would cease to be dominated by parked cars used for only minutes each day.

Trees, planning and maintenance

Trees set in gently rising brick planters lend a more human scale to the pedestrianisation scheme in Broadway, Bradford, by masking tall frontages and reducing the apparent width of the street

Trees provide an unparalleled source of variety and interest in our towns and streets and, as such, are a resource that we desperately need to take care of. They grow and decay, and a townscape with trees is therefore a work of great complexity which must be adjusted and amended through centuries. Every town needs, not just a borough engineer who is sympathetic to the imaginative use and preservation of trees, but also a landscape architect, or at least a town verderer, who can make all its trees his special concern, in park, square or street.

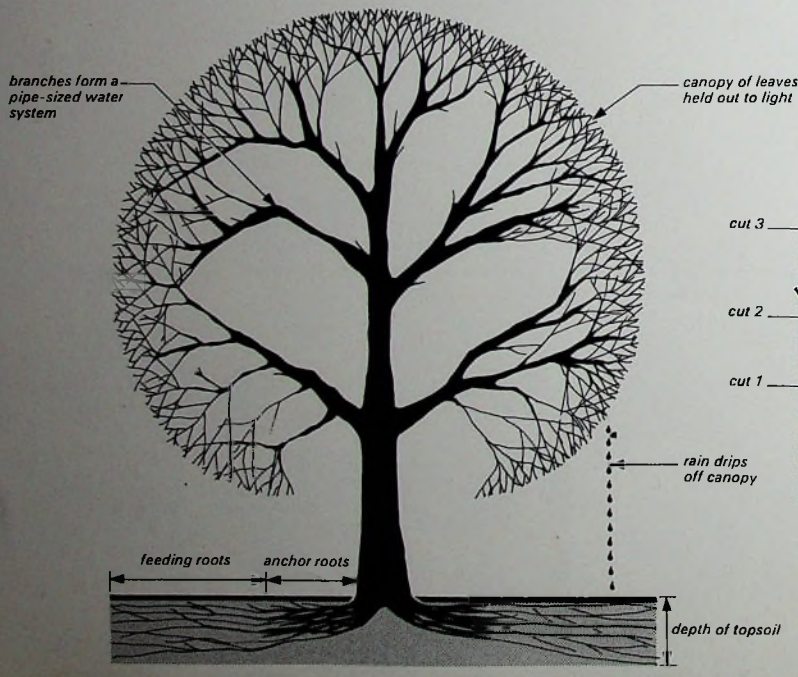
A tree is a living water system. Its roots and branches are designed to carry water up from the soil into its leaves, where it evaporates into the atmosphere. This process of 'transpiration' is vital to the well-being of the tree. It makes the food that it needs for its growth by using chlorophyll in its leaves to build up sugars and starches through the action of light and water. The water comes from the soil and the light from the sun. The tree gets all the light it can by holding out all its leaves to the sky in a roughly globular canopy rather than a dense mass.

The roots radiate out from the trunk in a shallow layer in the subsoil, seldom more than about one metre deep. Some trees have tap roots that go down deep into the earth, but these are for anchorage rather than water collection and the thick portions of root near the trunk also act as anchors. Water is collected by the fine, fibrous roots that fan out at the edges of the radial root system, especially under the tips of branches where rain drips off the leaf canopy.

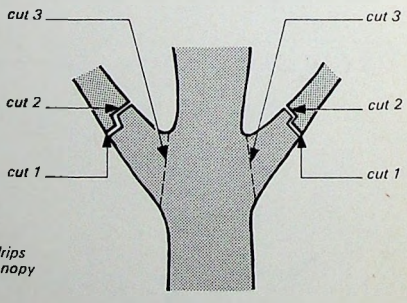
The whole tree functions as a balanced system and, left to its own devices, it will develop branch and root systems that are in harmony with each other. If one part of the system is damaged, however, this balance is lost and, unless it is restored by pruning roots or branches to a corresponding extent, the tree's function will be impaired and it may even die.

Trees living in town or cities have to survive in a more or less hostile environment. Building operations can damage the root system if trenches are dug anywhere within its circumference (generally at least as large as the circumference of the leaf canopy). Even more common is damage caused by raising or lowering the soil level around the tree. The feeding roots must operate in topsoil—soil rich in organic matter, porous, containing oxygen and full of bacteria whose activity, especially in fixing atmospheric nitrogen, is essential. If the entry of oxygen into the soil is cut off by laying tarmac, by waterlogging, or by raising the soil level over the root area, bacterial action will cease and the tree will die. It is sometimes thought to be safe to raise the ground level around a tree provided that a well is left around the trunk; this is not so, because the feeding roots will still be damaged. If the ground level must be raised, it should be done by spreading porous shingle or gravel that will allow air to penetrate the topsoil layer.

There are many other things that make life hard for a town tree. Restricted root space; hard and impervious pavings; gusts of wind caused by surrounding buildings; lack of light resulting from overshadowing by buildings; atmospheric pollution from traffic and other sources; poisoning by gas leaks (a minute trace is enough) and by petrol and salt washed off roads; and the drip from copper telephone wires. All these things and many more will damage trees and they tend to limit the types of trees suitable for town planting to certain robust and resilient species. A brief guide to some proven species is given on pages 32/33. It is, of course, selective, but it should provide a variety of sizes, habits and other characteristics to suit different situations. At the very least, it should provide an alternative choice to the ubiquitous pink Japanese cherry.



ROOT AND BRANCH SYSTEM

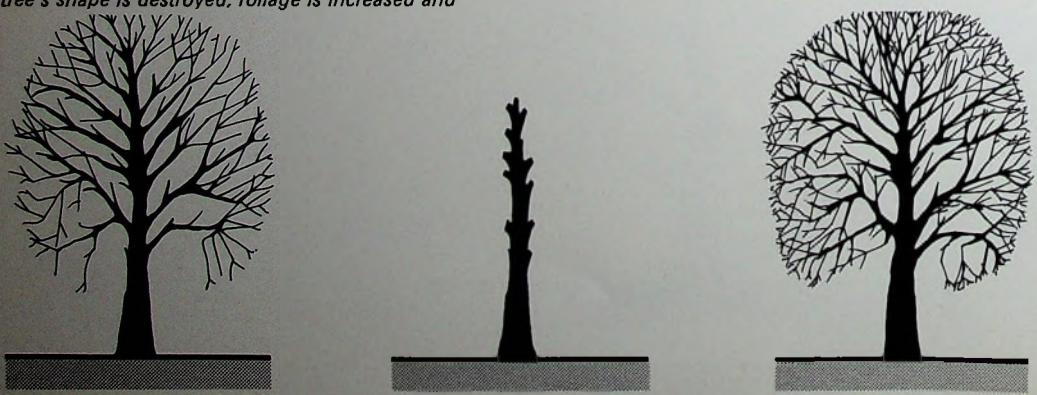


PRUNING OF BRANCHES

correct cuts to prevent tearing (cuts 1 and 2) and to allow wounds to heal (cut 3)

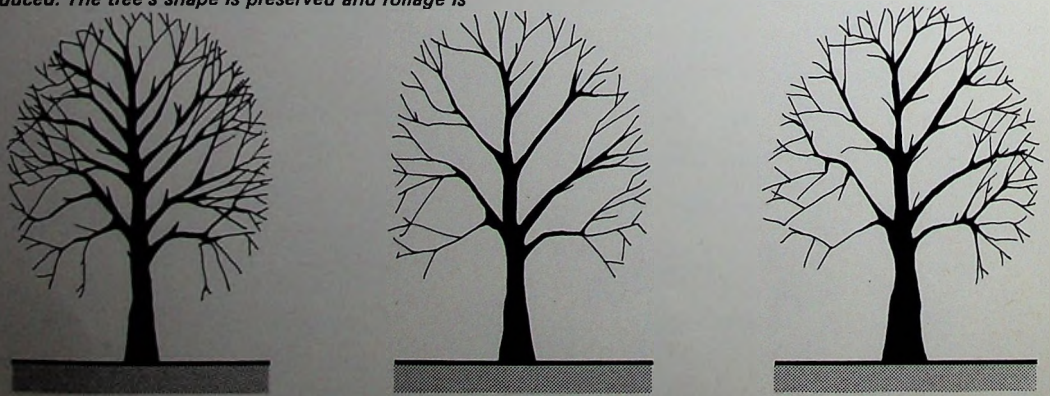
English name	Botanical name	Characteristics
Norwegian maple	*Acer platanoides*	Deciduous, bushy, over 15m high with good autumn colour and early leafing in spring. Grows in chalk and limestone soils. The sycamore, *Acer pseudoplatanus*, is a close relative but is less attractive and seeds itself very readily
Silver maple	*Acer saccharinum*	Deciduous, spreading, over 15m high with silvery undersides to leaves and good autumn colour. Grows in chalk or limestone soils
Pink horse chestnut	*Aesculus 'Carnea'*	Deciduous, spreading, over 15m high with pink candle-shaped flowers but with no 'conkers' to attract children
Tree of heaven	*Ailanthus altissima*	Deciduous, bushy, 10-15m high with a distinctive appearance providing dappled shade. Rapid growth
June berry	*Amelanchier canadensis*	Deciduous, bushy, less than 10m high with white blossom in April and very good autumn colour with tints of crimson and orange
Birch	*Betula pendula*	Deciduous, bushy, 10-15m high with silver bark and light green foliage. Grows in chalk and limestone soils. A more pendulous variety is the Swedish or weeping birch, *Betula dalecarlica*, which also has distinctive cut leaves. There is also a taller, narrower variety, *Betula fastigiata*, which grows to 15m or more
Hornbeam	*Carpinus betulus*	Deciduous, bushy, over 15m high with good autumn colour. Retains its leaves well and tolerates shade. A narrower variety, *Carpinus fastigiata*, grows to over 15m and has a rather more formal appearance
Sweet chestnut	*Castanea sativa*	Deciduous, bushy, over 15m high with large dark leaves and flowers in July. Needs plenty of room
Cedar of Lebanon	*Cedrus libani*	Evergreen, over 15m high with spreading horizontal branches when mature. Distinctive but slow-growing and not very resistant to atmospheric pollution
Cornelian cherry	*Cornus mas*	Deciduous, bushy, less than 10m high with yellow flowers in February or March before leaves appear
Hawthorn	*Crataegus oxyacanthoides*	Deciduous, bushy, less than 10m high. Several varieties including *plena* which has double white flowers and autumn fruits
Ginkgo or maidenhair tree	*Ginkgo biloba*	Deciduous, slender, 10-15m high with very distinctive frond-like leaves but slow-growing and rather expensive
Holly	*Ilex aquifolium*	Evergreen, bushy, less than 10m high. Many varieties with different coloured leaves. Tolerant of shade but rather slow-growing
London plane	*Plantanus acerifolia*	Deciduous, bushy, over 15m high with distinctive and decorative bark. Very good in towns and tolerant of pruning

WRONG Lopping to stumps produces a mass of straight branches from each cut, cuts rot and branches fall. The tree's shape is destroyed, foliage is increased and the result needs frequent pruning with many branches to cut each time



English name	Botanical name	Characteristics
White poplar	*Populus alba*	Deciduous, bushy, over 15m high with pale bark and white undersides to leaves. Quick-growing but rather short-lived and needs plenty of water. The grey variety, *Populus canescens,* is not such a light colour and grows rather larger
Black poplar	*Populus nigra*	Deciduous, bushy, over 15m high with rather haphazard branches and copper-coloured leaves. Rather short-lived and needs water
Balsam poplar	*Populus tacamahaca*	Deciduous, bushy, over 15m high with sweet-smelling buds in winter to which some people are allergic. Short-lived and needs water
Almond	*Prunus amygdalus*	Deciduous, bushy, less than 10m high with pink blossom in March. Several other varieties
Autumn cherry	*Prunus subhirtella autumnalis*	Deciduous, bushy, less than 10m high. Flowering cherries have been over-used in the past but this variety has the unusual attribute of having white flowers throughout the winter from November to March
Willow-leaved pear	*Pyrus salicifolia 'Pendula'*	Deciduous, pendulous, less than 10m high with unusual leaves covered with a greyish down
Holm oak	*Quercus ilex*	Evergreen, bushy, over 15m high with a dark trunk and branches and broad, evergreen leaves. A slow grower, like other varieties of oak such as *Quercus robur* and *Quercus petrea*, but all are long-lived
False acacia	*Robinia pseudoacacia*	Deciduous, bushy, over 15m high with a graceful and open appearance and flowers in June. Hardy but tends to drop leaves and flowers
Elder	*Sambucus nigra*	Deciduous, bushy, about 10m high. Not attractive but very tough and may succeed where others fail
Whitebeam	*Sorbus aria*	Deciduous, bushy, 10-15m high with white undersides to leaves. Other varieties include *Sorbus intermedia,* which has yellowish down on its leaves during spring, and *Sorbus discolor* which provides brilliant autumn colour. All whitebeams will tolerate chalk or limestone soils
Lilac	*Syringa vulgaris*	Deciduous, bushy, less than 10m high. Tough and hardy with blossom in June
Lime	*Tilia 'Euchlora'*	Deciduous, bushy, over 15m high. This hybrid variety does not drop 'soot' like other limes. *Tilia petiolaris* is the white lime, a weeping variety with silver-white undersides to its leaves and strongly-scented flowers

RIGHT Thinning out branches at the trunk allows cuts to heal over with bark so that no further growth is produced. The tree's shape is preserved and foliage is permanently reduced. No further attention is needed for many years



A practical and maintenance-free planting method that provides an attractive textured surface while allowing mature trees to take up enough water is achieved by placing stone setts right up to the trunks of trees

As a guide, small trees are no substitute for large ones in an urban landscape. Forest trees will dominate the most chaotic street scene and create a coherent landscape where the buildings have failed. They provide a background against which smaller, possibly flowering species can be set. Trees for towns should preferably be robust, fairly quick-growing and long-lived, although these last two qualities are contradictory—trees that are quick to grow are also generally quick to decay and become dangerous within a century. Best of all are the plane, lime and horse chestnut. Willows and poplars grow quickly, but they are short-lived and very thirsty for water. This can cause shrinkage problems in heavy clay soils with possible damage to building foundations.

Proper care of trees, starting with planting and continuing with maintenance throughout their lives, is most important. British Standard BS 4428:1969 'Recommendations for General Landscape Operations' is a useful reference The planting season for deciduous trees lasts from late October to early April but trees should not be planted if the ground is waterlogged or frozen. Conifers are best planted in October-November or March-April. Newly-planted trees must be supported by stakes and ties, which must be firm but not restrictive, and may need metal or plastics guards.

Larger trees may need pruning and thinning. This is an expert job, although the illustrations on pages 32 and 33 will be of some help to the novice. It is most important, however, that there should be a proper plan for tree planting and maintenance, together with staff to carry it out.

Planning for people

London Street in Norwich, which was pedestrianised in 1969, shows how a combination of varied paving, planting and street furniture has restored a human scale, helped in this case by the curving plan of the street itself

The pedestrianisation of the centre of Thetford, Norfolk, shows particular care and attention to detail, with plain, unifying paving contrasting with more decorative surfaces. This successful scheme involved no less than four separate local authorities, as well as owners of surrounding buildings, local businesses and residents

Roads are for traffic—streets are for people. Perhaps this simple maxim has got a bit blurred over the years, largely as the result of our society's ever-increasing need for the rapid transportation of people and materials, but it is still worth remembering. If you take to the road you're a vagrant, but if you take to the streets you're a revolutionary (or worse)—our language reflects the belief that streets involve the community rather than the individual. The increased public acceptance of pedestrianisation schemes in city centres, and indeed the demand for them, has already been mentioned. There is no doubt that pedestrianisation has been a very important development in that it helps to restore a human scale to the urban street—planning for people, in fact. And other developments have supported this general trend. The research behind such books as Oscar Newman's *Defensible Space* depends on the fundamental proposition that areas for which people will show concern can be created through the manipulation of the buildings and spaces in our cities. Although architecture in the broadest sense, is not a precise control, it does look as though it can be a more or less direct influence on those who use it. Perhaps it is not too much to hope that this powerful and ever-present influence can be used positively to help restore the sense of identity and community that is threatened by our modern urban lifestyle.

Size is of course a major element in the defensible space thesis. The grandiose civic scheme, the economically attractive hypermarket, even the over-generous park or open space—all of these can be simply too large for the comfort and involvement of the people for whom they are intended. In practical terms we can see this as encouraging; it means that a small scheme in the right place and at the right time can have benefits that are much more effective than those of larger schemes in terms of money and time—an important consideration in present circumstances. Equally, detail planning in large and small schemes alike, much of which involves selecting and siting items of street furniture, can be extremely important to the individual user.

Reductions in scale can also lead to an altered approach. The smaller scheme will be able to have a shorter lead-in time and possibly greater flexibility in application. Even where the size of a problem makes a large-scale solution inevitable, it may be possible to use temporary structures to bridge the gap, or allow temporary alternative uses of existing spaces, so as to avoid too long a period of 'development blight' before the new, improved plan takes over. It is worth remembering the contribution that the local community can make in this type of situation, rather than simply imposing the most expedient solution.

And perhaps, while on the subject of planning for people, it is worth mentioning once more the needs of special groups of people in the community. As many as one in thirty of the population in this country, for example, suffer from some sort of physical handicap. Whether a scheme involves the planning of a pedestrianised precinct, a shopping centre, a park or a housing estate, it is important that it should be planned for the community as a whole for their continuing use. This in turn means that most schemes must incorporate a degree of flexibility to cope with differing needs and abilities, and with changing use over a period of time. In this way our streets can develop naturally according to the needs of those who use them and with the help of their involvement.

TOP The High Street in Stamford—closed to traffic but with practically no other concessions to shoppers and pedestrians—can be contrasted with a purpose-built shopping precinct such as the one in Sleaford

BOTTOM which provides a far more suitable and sympathetic environment through the use of shorter perspectives, arcades, paving and planting

TOP The construction of a pedestrian plaza as part of the redevelopment of London's Victoria Street has revealed the facade of Westminster Cathedral for the first time in its history. The lighting, however, seems anachronistic in combination with new architecture and furniture and modern equipment might have worked even better

BOTTOM Raised stone setts used as planters provide additional seating as well as making an informal barrier at a busy urban junction at the end of Buchanan Street, Glasgow

Architectural conservation

by Doina Thomas

Whitehaven, on the Cumberland coast, is an outstanding example of eighteenth century town planning. Much of the conservation work has been carried out by an enthusiastic Council, because most of the houses are rented rather than owner-occupied. Church Street has received concentrated attention, with its typical three-storey houses being enhanced by colour washing and cleaning

People don't like change. That is a common assertion, commonly accepted and it is most certainly reflected in the popular attitude to change in the architectural environment. This innate conservatism must, in part, explain why the movement for the conservation of 'Britain's architectural heritage'—to use the rather grandiose pot boiler phrase which covers everything from single houses to whole villages—has met with increasing popular response over the years.

The European Architectural Heritage Year 1975 (may there be more) really served to highlight the general interest in conservation in Britain. The Civic Trust, which created special heritage year awards, was almost overwhelmed by submissions of work done and the one-off Government heritage year grant fund of £180,000 was virtually exhausted before the closing date for applications.

The present welter of legislation and grant aid schemes for conservation purposes in Britain is immensely complex but fairly generous. The principal Acts involved are the Historic Buildings and Ancient Monuments Act 1953, the Local Authorities (Historic Buildings) Act 1962, and the Civic Amenities Act 1967, which was largely absorbed by the 1972 Town and Country Planning Act. Under this Act local authorities can make general development orders and declare conservation orders; there are now over 3,000 of these throughout the country. The Act was subsequently strengthened by the Town and Country Amenities Act of 1974.

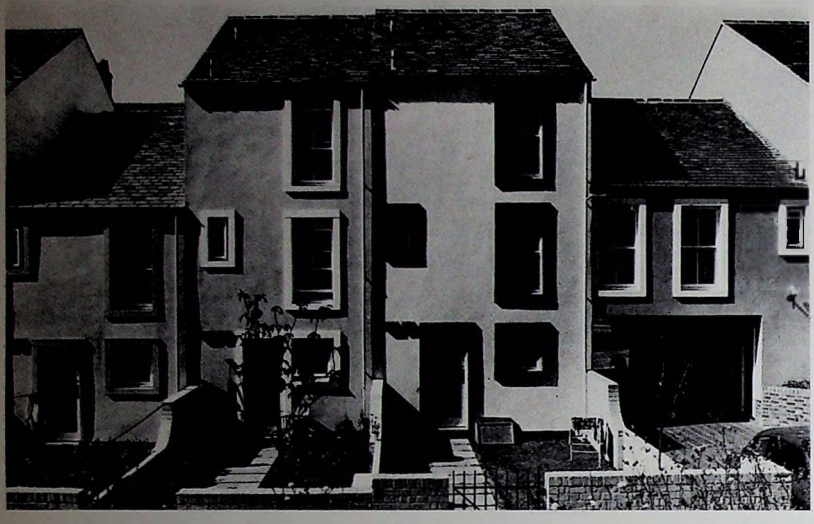
The 1974 Housing Act also contributes its not inconsiderable mite to conservation. Under it, local authorities can make numerous grants to help in the preservation of individual houses. There are four types of grant—improvement, intermediate, special and repair—and the local authority contribution varies according to the definition of the area surrounding the property concerned. In a housing action area, the local authority may contribute as much as 75 per cent of the total cost (or even 90 per cent in cases of severe hardship); in general improvement areas the grant can be as much as 60 per cent; in an area with no specific definition owner occupiers can receive up to 50 per cent of the total cost at the local authority's discretion. There are varying upper limits on all these local authority grants.

Further money can be got from the Historic Buildings Council, a body administered by the Department of the Environment, but generally speaking the property in question has to be a very special one. In buildings that the HBC is persuaded are of outstanding interest, either architecturally or historically, half the cost of necessary repairs will be met by the DoE without an upper limit. But in exchange the owners of the property must permit public access to its interesting features for a specified number of days each year.

Where whole areas are of architectural or historic interest, a local authority can institute a 'town scheme' under which it and the DoE jointly make grants for the repair of groups of buildings that might not be considered of outstanding interest individually. There are town schemes in Windsor, Bristol, Cheltenham, Canterbury, Chester, Ludlow, Whitehaven and many more. Under a town scheme the owner of the property is expected to provide half the money, with the rest being contributed half and half by the local authority and the DoE. A similar contribution can be made for aesthetic projects in conservation areas, remaking pavements and paths, restoring iron railings and even cleaning up the village pond.

Two very interesting town schemes under way at present show what can be done to restore or preserve towns of

An equal amount of attention has been paid to the backs of houses in Whitehaven as to the fronts. Different colours and the variations in height between the renovated roofs help to divide the terraces visually into individual homes



historic and architectural interest when the local authority (usually with its planning department as organiser) takes an active interest, with or without the help of the local population. Both Windsor and Whitehaven currently have town schemes masterminded by their respective planning departments, but that is about all they have in common. Most people will have a rough idea of the location and importance of Windsor, but not so many are likely to know Whitehaven is a town on the coast of Cumberland, north of Bootle and south of Workington.

Windsor plus Eton form a relatively wealthy middle class town. By education and tradition it has a vocal and concerned population that takes conservation fairly seriously. There have been 'face-lift' committees for a good decade now, under various titles. Windsor is physically dominated by the castle and, to some extent, by the tourists it draws in; Eton is dominated by the college chapel. The two towns are linked by a small Victorian cast iron bridge over the Thames that is now a Grade 2 listed structure. Thames Street, Windsor, winds its way down the hill towards this bridge to link up with Eton's High Street, which seems endless and full of antique shops.

Whitehaven is a much poorer town—an industrial town that has seen better days and that has a slightly higher unemployment rate than the national average. There is no great degree of owner occupation in the town centre and housing has become extremely dilapidated and, in many cases, derelict.

Both towns started thinking seriously about the conservation of their character early in this decade. For Windsor, the heart of the present town scheme is the area leading immediately up to the bridge, which was closed to traffic some years before as it was no longer up to the strain. A pedestrianisation scheme for the lower reach of Thames Street, but still permitting limited vehicular access, was conceived shortly after the bridge was closed and has now been completed. The bridge has now become a place to sit and watch the tourists go by, or just to watch the river flow. There is not quite enough seating but any more might make this rather small bridge look cluttered. The four Victorian lanterns on the bridge have been painted Vandyke brown with gold leaf highlights. The balustrade of the bridge, which is quite simple and restrained, has been painted in two tones of green and is virtually indistinguishable from the water beneath—a nice idea on a sunny day but dismal in the wet.

The stretch of Thames Street that is now banned to cars has been completely resurfaced. The old roadway has been replaced by dark slate-coloured interlocking concrete blocks in place of granite setts. This surface was chosen because it will stand up to vehicles turning. There are brick drainage channels between the 'road' and the new pavement, which is made up of pre-cast paving slabs with a natural non-slip finish. Acacia trees have been planted at irregular intervals, set into square paviours of rustic brick. Old fashioned street lamps were eschewed in favour of a simple modern design. Slatted benches for seating, also set in brick paviours, are either used singly or back to back in a graceful undulating shape. The only discordant note in the whole area is the blue mosaic frontage of the cinema, which is unfortunately close to a lovely river-front house that is being expensively restored and converted by a private company.

In 1974 Windsor applied to the HBC for Park Street, High Street and Thames Street to be declared outstanding and this was duly done by Christmas of that year. The total cost of the proposed work in the conservation area is just over £42,000 of which the DoE will now pay half. The Thames Street pedestrianisation scheme cost £29,000. The Windsor/Eton town scheme covers Eton High Street and right up to Park Street in Windsor—all of which is seen as 'an historic entity'. In the course of 1976 the buildings in both Windsor and Eton are being re-inspected and it is likely that the present totals of 138 listed buildings in Windsor and 110 in Eton will be doubled.

Whitehaven is also an historic entity, but for quite different reasons. It has only just been preserved—as much by accident as by design. There was a plan for comprehensive redevelopment of the town centre but, fortunately for this outstanding example of early eighteenth century town planning, this was never carried out.

Whitehaven's development from rural village to thriving industrial port was mostly concentrated into the first fifty years of the eighteenth century. Sir John Lowther, who took over development of the town in 1644, drew up a grid system for Whitehaven's bustling streets, which are now lined with classic three-storey terrace houses. These

Whitehaven developed from a rural village into a flourishing port following a planned grid system drawn up by Sir John Lowther in the middle of the seventeenth century. This picture looks across from one edge of the town to the other. The houses in the foreground are new and have been built for rented accommodation by the Council

streets are mostly still intact, as are a great number of the warehouses, town houses and mansions that sprang up in the days of the town's prosperity, built on the export of coal and the import of tobacco from America.

One of the notable mansions is Somerset House, built between 1750-60 by one Samuel Martin, a merchant trading with the American colonies. (American independence was very bad for Whitehaven's trade—Samuel Martin lost his Virginia estates and a lot of money). Appropriately, this fine house on the edge of a park now houses the Council's finance department. The building is structurally in quite good condition and it has recently been scrubbed and painted.

Most of the conservation work being done in Whitehaven is being carried out by the Copeland Borough Council because of the low owner occupation level. Some streets have had concentrated attention and work in Roper Street, Church Street and George Street received a Heritage Year Award (with a special note about the enthusiasm of the local council officials). A pair of three-storey houses in Roper Street that were derelict have now been restored for family dwelling. Successive accretions of extensions were pulled down to give the new tenants a garden and a garage at the rear. One of the few private restoration projects in the town is also in Roper Street and is now virtually complete. Another five houses are undergoing restoration work at present at a total estimated cost of £67,000, or £3,000 per bed space, and the Council has acquired another two for future restoration. It is hoped to restore almost the whole street over the next three years. Overbuilding is always a severe problem with houses that have been standing as long as those in Whitehaven and in the case of the Church Street/George Street/Queen Street development area there was virtually no open space at the back. Some of these houses are older than those in Roper Street, being built in the late seventeenth century, through the eighteenth and up to the very early nineteenth century in George Street. The houses are classics of their kind—three storeys with fifteen-foot individual frontages—and now they are able to house as many as six people, even though all the amenities, a good kitchen and a bathroom were taken into the original area of each house as the outbuildings were cleared away.

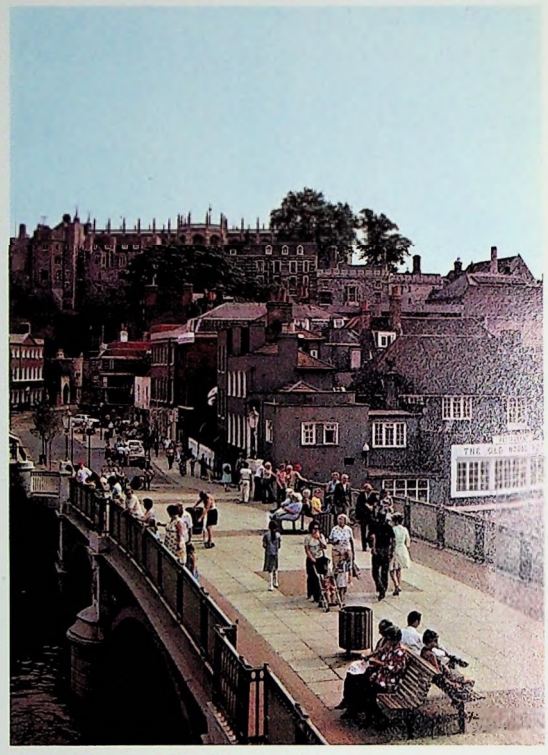
Though few of Whitehaven's terraced houses are likely to have remarkable interiors, their exteriors have quite a lot of endearing detail. Some of the houses carry street name plates that were cast in Victorian times in Whitehaven itself. A house in Roper Street built around 1740 still boasts the original lead rainspout, highly ornate with the builder's initials interlaced and roses or animal shapes forming the wall clamps. Unfortunately, most of the original port buildings, with the notable exception of the Customs House, have been razed. Otherwise the town would have been virtually complete, according to the Lowther plans. Most of the enthusiasm for conservation in towns seems to centre around the preservation of pretty, but often spec built, Georgian terraces. There are some very interesting examples of renovation for new use in the Borough of Lambeth—particularly in Brixton and Kennington, which were once villages on the road to Regency Brighton. The unusual terrace in Cowley Road, for example, was built in 1824 and is composed of two-storey, stucco fronted houses with continuous low-relief wall arcading up and over the first floor casement windows—it has been called unique. The rear extensions were demolished and replaced by single storeys in second-hand London stock brick. Trees growing too close to the frontage have been removed and replaced by a low wall. In Loughborough Road, semi-detached properties built in 1805 have been restored and turned into 36 maisonettes.

However, conservation work is not solely the province of councils or private individuals with a yearning for elegance. In Kennington Lane, Lambeth, (a dreadful lorry conduit between Vauxhall and the Elephant and Castle) there stand seven superb four-storey plus basement eighteenth century town houses. They are there courtesy of James Burrough, perhaps better known as Beefeater gin, and behind them is this company's distillery. The firm had originally wanted to demolish the terrace and replace it with a new office block, but in 1967, when the buildings were on the verge of collapse, the then Minister of Housing put a preservation order on them—thus posing a pretty problem for the company. In the end, the facade only of five of the houses was retained and two were restored as residential accommodation in the form of six flats. About 3,580 square feet of office space was provided for rent as well as 9,570 square feet of combined office and hospitality space for Burrough's immediate use.

This is an artist's impression of the new colour scheme devised by the GLC for the Albert Bridge over the Thames in London. Colours were chosen to emphasise the vertical strength of the towers in this case, but each bridge has a different identity and presents different problems

TOP Windsor's cast iron bridge had to be closed to traffic because of structural weakness. This enforced closure has been exploited by creating a pleasant pedestrian approach to Windsor Castle across the Thames, with subdued coloured paving, seats, trees and modern lighting columns blending well with the historic surroundings. On the left is the bridge as it used to be

BOTTOM Careful lighting can ensure that a conservation area is as attractive at night as it is during the day. This scheme in Elm Hill, Norwich, won an Outdoor Lighting Award in 1975. The lanterns house a high-pressure sodium lamp for general illumination and a downward-directed filament lamp, with brightness controlled by dimmers



On quite a different tack, it is now nearly ten years since the first of London's bridges burst from its grey coating into glorious technicolour. The transformation of Battersea Bridge was followed by Albert, Lambeth, Westminster, Chelsea, Wandsworth, Hammersmith and Vauxhall.

In the first flush of enthusiasm (and perhaps a degree of inexperience) the Greater London Council opted for strong, bright colours, feeling that traffic and the elements would fade them in time. Now, as the time for repainting arrives, they have decided that more subtle colours can be used.

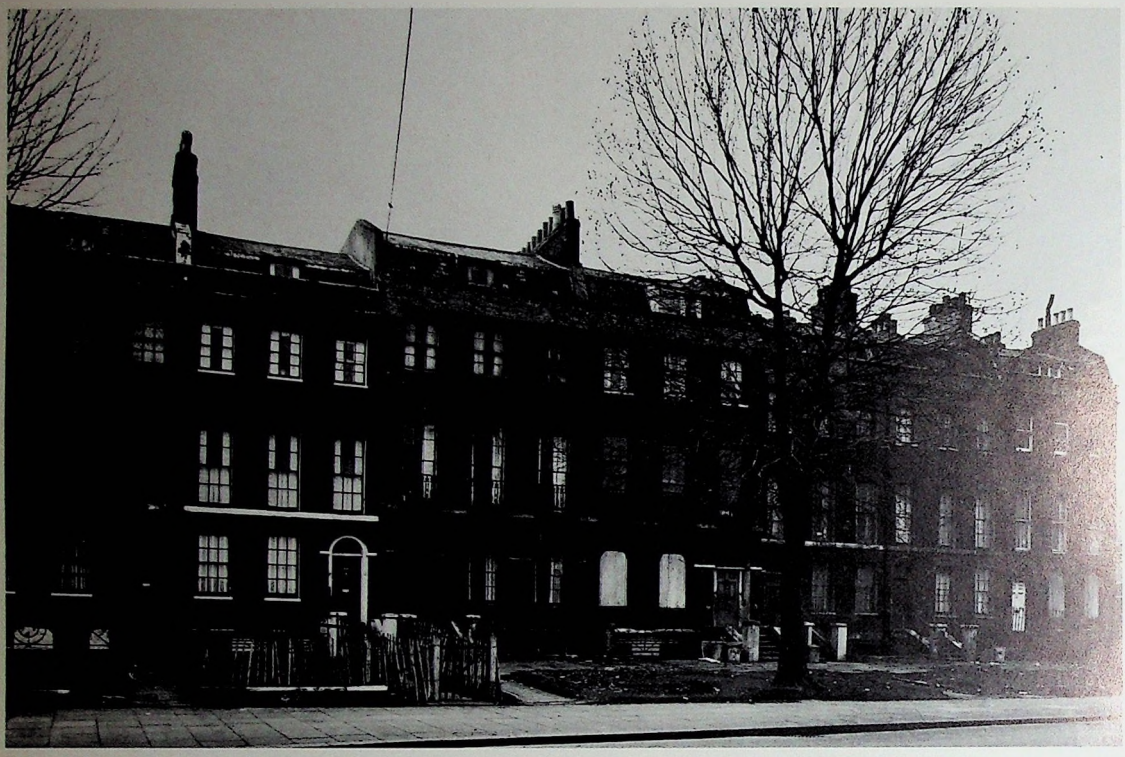
There are no great technical difficulties in painting bridges. However, there is a great deal of skill in composing the colour scheme, for it is all too easy to alter a bridge's appearance by using accent colours on the wrong features. Take Albert Bridge, for example, which was painted in 1967 at a cost of £9,800. It is a listed structure and got a Civic Trust Award for its present colour scheme of coffee brown, pale blue and white. It has been suggested that these colours make the bridge look less strong than it is. The new scheme, scheduled for 1976, is intended to give the bridge more vertical strength by emphasising the towers in a dark, strong colour and making the rest of it less conspicuous.

The only sad part of it all is that the bridges are of course best seen from the river, and not many people use the Thames in the ordinary course of events. Who would know that Vauxhall Bridge—the last to be colour painted, at a cost of £44,000—had bronze statuettes on it? Nevertheless, Londoners and visitors alike seem to enjoy the coloured bridges.

As yet, conservation has not really made any impact on the industrial buildings of this country. There are few factories that are architecturally very distinguished, but there are a great many still left over from Victorian days, patched and propped up, but still working. With a little paint and a bit of thought they could become much more pleasant places in which to work. The Ravenhead Glass factory near St Helens is a case in point. The main building is 103 years old and still usable but until three years ago, cluttered with overbuilding on an unkempt site, it was little better than an industrial slum. It has now been painted white with a black trim to highlight the windows and provide a scuff guard round the bottom of buildings. The surrounding area has been landscaped and unnecessary sheds have been demolished, letting more light into the building. Morale and housekeeping at the factory has improved and plants are appearing on windowsills. Costs only reached five figures.

Conservation is not only about retaining architectural gems and historic places for the future—it is also about making the living and working environment more pleasant for people today.

These before and after pictures of a conservation scheme in Kennington Lane, London, show how a commercial company—James Burrough—has preserved and enhanced an eighteenth century facade. Two of the houses in this terrace have been converted into modern flats, while the remainder now provide more than 13,000 square feet of office space. The Burrough distillery is immediately behind the terrace



Advertising clutter

Thoughtlessly placed advertising does nothing for local architecture, is obtrusive, lacks real effectiveness and can make traffic signs difficult to see and interpret

Outdoor advertising is a major cause of visual confusion and ugliness in our towns and cities today. Hoardings, shop signs, window stickers and the cluster of proclamations, promises and placards that characterise the average shop or petrol station all too often combine to dominate the urban scene (or the rural one, for that matter) and obscure the buildings they adorn.

By their nature, advertising matter for street display is hard to integrate with its surroundings. An individual shop sign or poster may be unexceptionable, or even outstandingly well designed, but an arbitrary cluster of such advertisements, each competing with the rest for the passer-by's attention, is more likely than not to be messy and obtrusive. And of course this type of advertising, like noise pollution, is outside the control of the individual to an extent—it's there whether we like it or not, and often on a large scale.

In new developments, such as shopping precincts, the difficulty can often be successfully resolved by anticipating the need for advertising sites at the design stage. Plenty of purpose-built equipment exists for displaying posters effectively. It is much harder to create a harmonious effect in older streets where advertisements have to be imposed upon buildings and spaces not designed to accept them, but again, given the right equipment and careful siting, the task is not impossible in most cases.

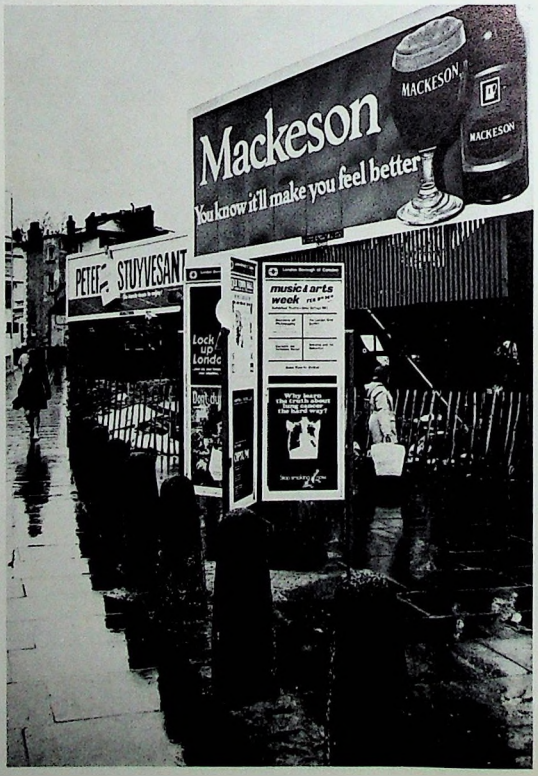
So a measure of control of street advertising is desirable, and in fact local authorities can act to curb the worst excesses of the street advertiser. Under the Town and Country Planning (Control of Advertisements) Regulations 1969 they can refuse to allow, or demand the removal of, advertisements that adversely affect 'amenity or public safety'. This means that, in effect, advertisements can be banned from any place that is of particular historic, architectural or cultural interest, or from a place where they might constitute a hazard—for example by making traffic signs difficult to see or interpret. The regulations also empower local authorities to define 'areas of special control'—notably, but not necessarily, in rural areas—in which no advertising at all is allowed. Even in these areas, of course, it may be necessary to erect signs for public information and direction, in which case these will have to be chosen and sited with exemplary care.

The zeal with which legal powers are exploited naturally varies greatly from one authority to another, and in any case the problem is one of education rather than direct control, but they can be used to improve the street scene dramatically in some areas. Right at the other end of the scale from the traditional jumble of small-scale poster advertising, however, are the super-sites and bulletin boards that can dominate their surroundings completely. Extremely careful siting can avoid some of the pitfalls of advertising on this grand scale, but the basic problems of size will remain.

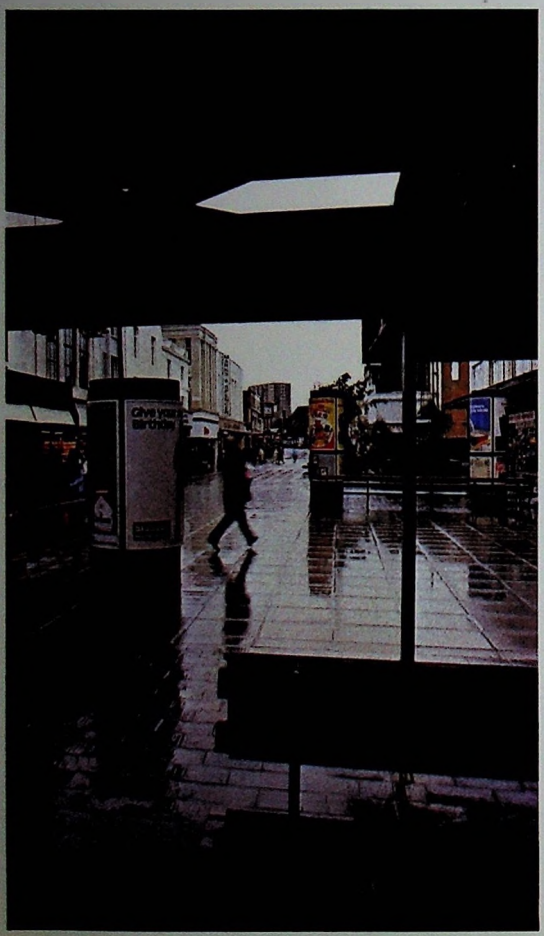
A great deal of unsightly advertising, however, does not fall within the categories subject to local authority control, and here any improvement must be achieved by persuasion and example rather than legal sanctions. Pressure from sections of the community such as civic associations can often be effective, but above all what is needed is more forethought, imagination and responsibility on the part of planners, advertisers and commercial concerns, together with an understanding of the importance of responsible advertising within the street scene as a whole. Well designed alternatives to the scruffy and inappropriate forms of display frequently seen at present already exist and can benefit the public and the advertiser alike.

TOP This small group of display stands in Thetford's Heritage Year Award-winning pedestrianisation scheme for its town centre has been carefully integrated with its surroundings and makes a positive contribution to them

BOTTOM The reverse is true of these commercial and local authority posters in North London. Even 'temporary' sites can, in practice, remain in use for years

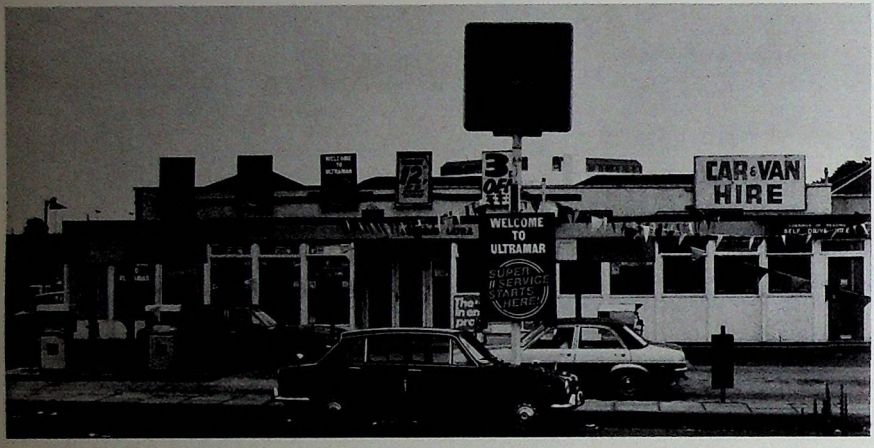


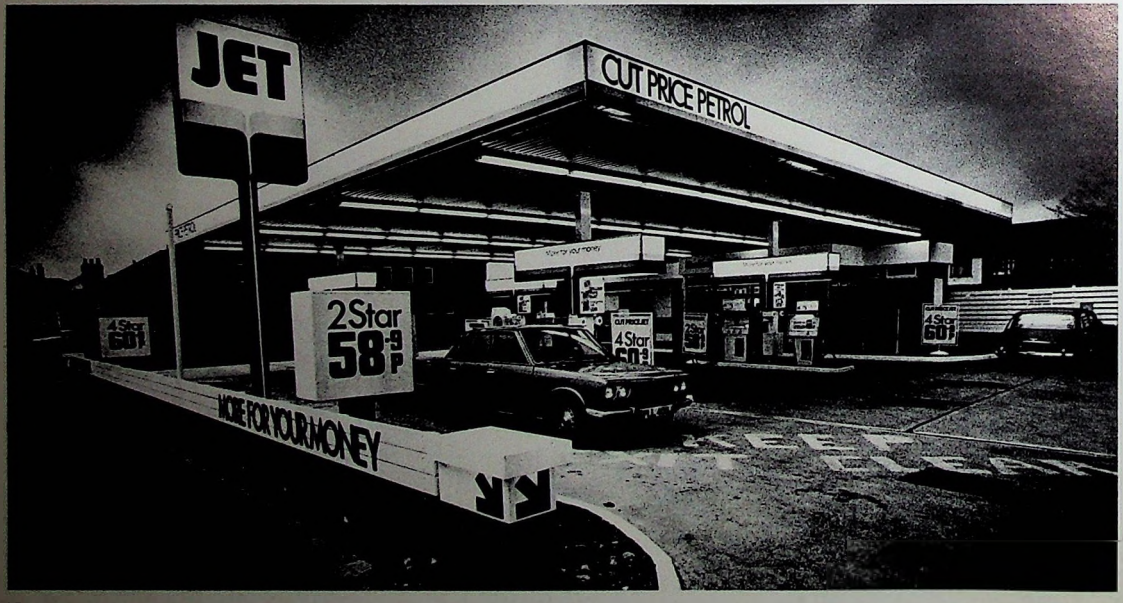
Advertising on an appropriate scale and sensibly located provides colour and interest in pedestrianised areas. A wide range of well designed display systems exists to suit most situations



TOP A worthwhile improvement in appearance and amenity of this corner site in Hemel Hempstead resulted from the removal of a poster site

CENTRE AND BOTTOM Petrol stations dominate the street scene in their thousands all over the country with clusters of confused advertising claims and irrelevant bunting. Far more impact on the driver and much less clutter is achieved by clean, basic design





Town art

The idea of having a 'town artist' is a relatively new one. In practice, however, it seems to be most successful in that an artist who is permanently at work in a particular environment can achieve a level of communication and impact on the surroundings that could never be matched by a series of works commissioned from different artists, no matter how meritorious they might be.

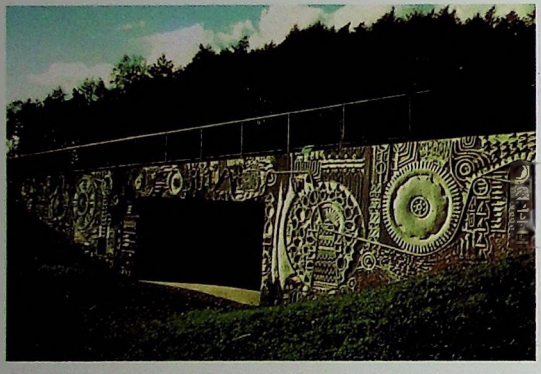
David Harding was appointed as town artist by Glenrothes Development Corporation in 1968. Not quite the first of the town artists, but certainly an early specimen of the breed. He has developed his job at Glenrothes to suit his own conception of the town artist's role, refusing to help with day-to-day graphic design and choosing to work in the housing areas of the town rather than in the public centres. One would see very little of his work by simply driving through Glenrothes—the pieces are usually come upon unexpectedly and provide points of high interest,

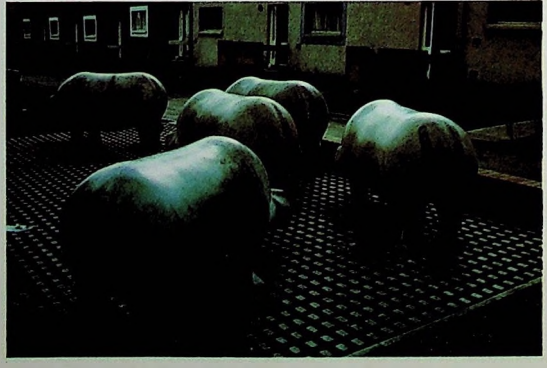
A selection of David Harding's work in and around Glenrothes. TOP LEFT An in situ concrete relief on a pedestrian underpass. The builders on site were hostile to begin with but ended up by adding their names to the design

BOTTOM LEFT Work in progress on a mural for the end of a shop carried out by pupils from a nearby secondary school. It will be replaced by a new design every two years

TOP AND CENTRE RIGHT Before and after views of a frequently vandalised gas governor house adjoining a temporary adventure playground. Local children were persuaded to work out a design and carry it out using their chosen medium—spray paint

BOTTOM RIGHT Five baby hippos, originally designed by Harding's assistant Stan Bonnar, form a moody group at the corner of a housing block





using free-standing forms, colour, and surface textures to break up the solid uniformity of the modern residential areas.

At first, David Harding worked on projects that were at an advanced stage of development, but he is now much more involved in new projects such as shopping, housing and engineering works. This means that the artist is a part of the building team, working with architects, engineers and planners—and, more important perhaps, with bricklayers, labourers and site foremen.

David Harding sees his role as that of a catalyst 'creating and organising opportunities for the community to contribute to the environment in a direct way'—hence his insistence on working in schools and on building sites. Now that the community's initial scepticism to his work has been overcome ('Come back Michelangelo, all is forgiven', scrawled across the first wall he sand-blasted) his work has had virtually no attention from vandals and the pieces are very much a part of the town. Children have invented their own games and rituals around the forms and sculptures, and adults use them as landmarks in the areas where pedestrian schemes have done away with the street and street corner—'You can't miss the house, it's just by the giant eagle'. Often the works are named by the people rather than by the artist.

A sure sign that David Harding has won the Corporation's approval is the fact that for the past four years they have given a grant for a student to work with him for a year. His first two assistants are now working in newly created jobs in East Kilbride and Stevenage.

Water and waterways

by Peter White, Chief Architect and Planner
British Waterways Board

Manchester Metropolitan District Council chose to convert a disused, insanitary and unsafe section of the Rochdale Canal into a shallow ornamental waterway with landscaped banks suitable for play and recreation while retaining some of the traditional canal-side atmosphere

In spite of the increasing public exposure that waterways in Britain enjoy, for millions of people the presence of a canal or river is still only an uncomfortable bump in the road or a ditch, full of the prejudices and preconceptions of a lifetime. In town and country, however, the canal and river system is encountered in the most unlikely places, steeped in the atmosphere of the industrial and commercial revolution that produced it.

What value is this extensive system today? What environmental qualities does it possess? What are the pressures and problems? Where are the opportunities and dangers? The early development of canals was, of course, achieved without an architect or planner in sight. Millwrights, agents and land surveyors held sway and managed to promote schemes backed by landowners, speculators and companies of investors aimed at transporting heavy mineral resources in bulk. For something like eighty years, the water highways that resulted were the major arteries of the nation, all conceived and designed around the capabilities of the horse and the man. A new profession of 'navigators' was emerging.

Whole communities grew up around the new transport undertakings. Agricultural wharves, grain warehouses, coal loading basins, crane hoists, toll offices, lock houses, pubs, forges and furnaces, bridges and workshops—all these features provided an intricate back drop to the canals and rivers themselves. A splendid 'functional tradition' evolved in which these things were built with confidence, often expediently, using the materials to hand and, because they are of strikingly simple form, they still possess an impressive strength and permanence. Cast iron, brick, stone and clay were used to 'do a job and last'. Great judgement and subconscious good taste abounded—and all because of the most commercial motives in the world.

Today the details of the surviving structures show signs of the enormous wear and tear caused by time, weather, ropes and lines, and even the boatmen's boots; it is often very moving to realise what these signs mean in terms of sheer human endeavour.

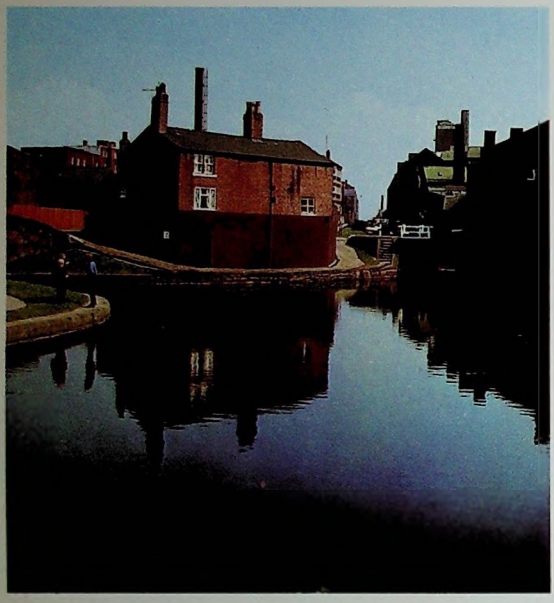
Over the past twenty-five years a new industry has emerged to inherit these relics of an earlier, harder age—that of leisure. But, quite apart from satisfying the needs of sailors, anglers, walkers, canoers, naturalists and other active users of canals and rivers, our waterways system clearly forms a part of a visual and environmental amenity that can often strikingly enhance deprived areas such as our decaying inner urban centres. As it happens, water is also useful for cooling purposes and fire-fighting, and of course the canals are an essential part of the land drainage system. Their single ownership is also often of value in threading electric cables and gas services through heavily built up urban areas. So, for once, economics are on the side of the conservationist and because of these functions canals are impossibly expensive to eliminate—it's much better to make the best of them.

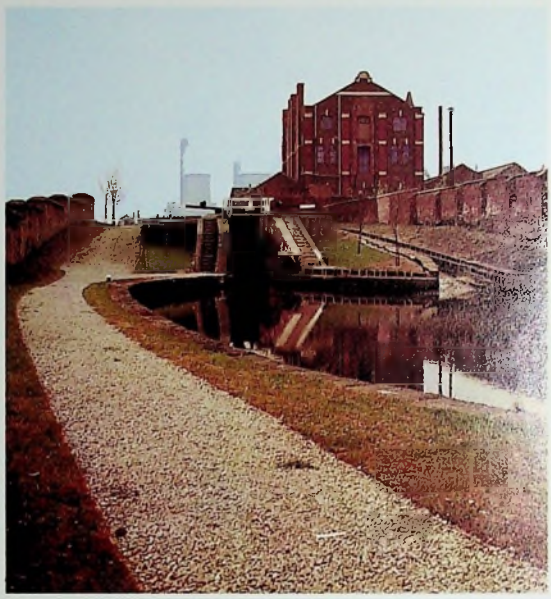
The British Waterways Board is responsible for about 2,000 miles of our inland waterways up and down the country—two thirds of the total waterways system. Because much of the Board's ownership is often restricted to the canal itself and its adjoining towpath, the quality of the surrounding scene is a function of several different interests. Through liaison with local government, industry and voluntary groups, the Board is developing a planned strategy, not only for amenity facilities, but also for a consistent policy towards waterside development so that the community as a whole can use and enjoy water rather than worry about it.

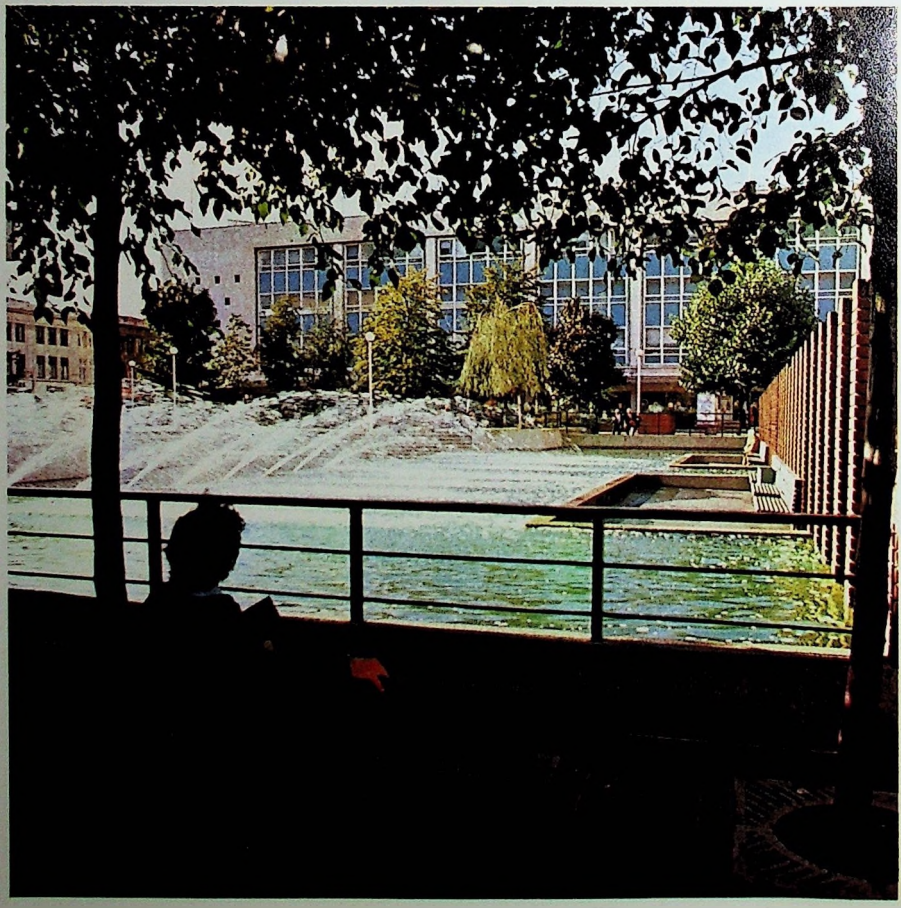
The Board has developed a *Waterways Environment*

TOP Two views of the recently rehabilitated Ashton Canal, which also runs through parts of Manchester. In this case the British Waterways Board has restored navigation while at the same time providing an urban walkway of great charm and interest related to the industrial surroundings. This scheme, too, received a Heritage Year Award in 1975

BOTTOM In complete contrast, this civic scheme in Gloucester makes dramatic use of water in movement as a central feature of a large pedestrian precinct

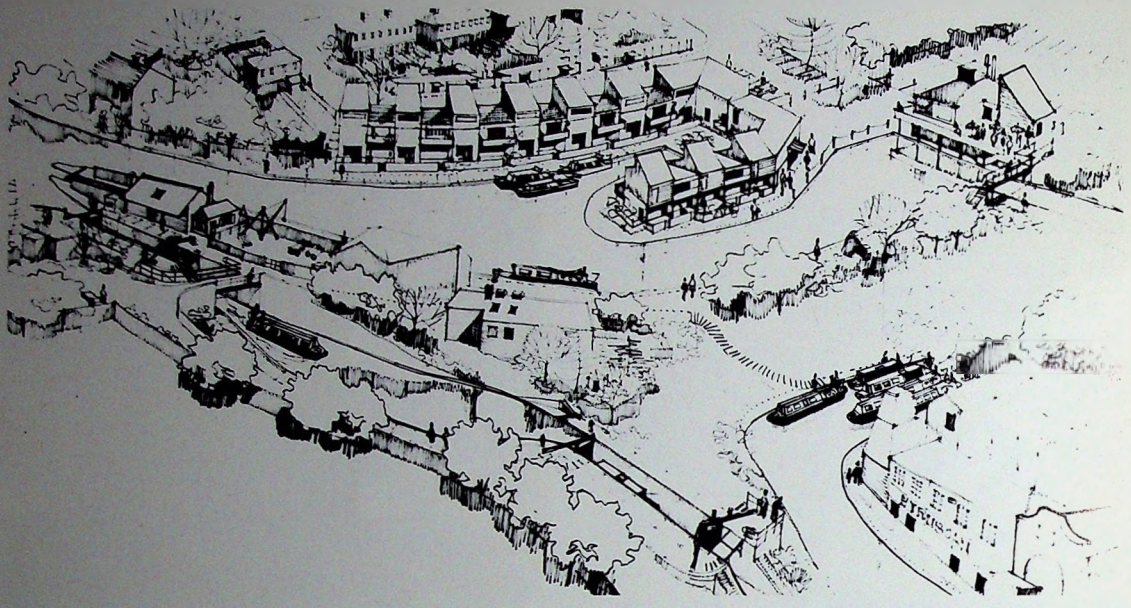






TOP Complete integration of new and old canal-side buildings would be a feature of this 'village' scheme to be built on landscaped derelict land near the Caldon canal at Etruria, Stoke-on-Trent. Old canal-side buildings will be converted into a museum, a pub and waterside housing will be introduced as a focal point on the restored canal

BOTTOM Water can help to provide visual interest on a small scale as well as in large schemes. This simple but effective fountain adjoins the new Maidenhead Central Library



RIGHT The redevelopment of the Rochdale Canal has provided a safe and enjoyable amenity in the heart of Manchester, especially for the young

BELOW This lock on the Caldon Canal, and the Junction Bridge at Dukinfield where the Ashton and Lower Peak Forest Canals meet, both typify the weathered strength of the canal-side scene where everything was designed to 'do a job and last'—a quality that must be maintained in new additions

Handbook—a loose leaf design manual that is widely distributed to its own staff and local authorities, planning and architectural consultants, waterside industry, civic and waterways societies. It contains many ideas for transforming the all too frequently seen linear dumping ground or polluted ditch into a new focus for interest and leisure use. A towpath walk, a waterside pub or a lunch hour recreation area—as important as 'what' is done are ideas on 'how' to achieve it.

Derelict and abandoned waterways are increasingly being restored. A good example is the Peak Forest Canal at Marple, where not only was the waterway itself restored, with the help of local authorities and voluntary groups, but also the towing path. It was surfaced with quarry screenings, lock gates were painted and the lockside areas maintained. The result is not just a recreational outlet for the North West of England, but an environmental asset of quite magnificent landscape value for everyone who lives in the neighbourhood.

Also in the North West is the Ashton Canal in the city of Manchester. Like the Peak Forest this has been restored to navigation by dredging over six miles of canal and repairing 16 locks. A very simple treatment has been applied to the lockside environs in terms of surfacing and landscaping. Lock houses have been painted, bridges sand-blasted and a new coherence and visual order prevail.

Other waterside schemes have been less fortunate, perhaps because of the terms of reference given to the designers involved. The local authority owned Rochdale Canal Water Park, for example, is rather less inspiring. The fear of drowning accidents led the planners to create a shallow water channel in place of the old canal and this needs to be swept and cleaned of debris and rubbish regularly, keeping a dozen men occupied in the process. The water in this case is just something to look at and, as such, it is next to useless. Unless a stretch of water can be constructively used it becomes a liability.

Perhaps even worse is a 'parks department' approach that tends to municipalise an urban waterway. It is so easy to devalue and degrade the simple, straightforward characteristics of the canal scene. It is no place for tarmac, flowering cherries and weeping willows. Uniformity is not the aim either, although ironically it was the canal system that, for all its harmony, charm and interest, had perhaps the most impact on local characteristics in the first place—building materials were made available in areas where they didn't belong for the first time on a large scale.

For architects, designers, planners and engineers there is much that can be done in order to prevent our waterway scene being turned into the worst sort of linear fun-fair or a series of municipal playgrounds. With such a great commercial and social past the canals and rivers deserve and need a planned and decent future. The result need not be a pompous civic scheme collecting fag ends and lollipop sticks; it can be a vital part of the urban surroundings, sometimes casual, surprising and informal, but always respected and well cared for.

Playground safety

Playgrounds and play equipment have become an essential part of life in towns and cities, providing a major source of the challenge and adventure that children need. All too often, however, they are also the source of unnecessary accidents: a recent survey showed that at least 20,000 children are treated in hospitals every year as the result of accidents involving equipment in playgrounds.

Some accidents will always happen, however good the design of the equipment and the playground may be. And mollycoddling children by removing all potential sources of injury in a playground is no answer, even if this were possible. Boredom would rapidly drive the kids to look elsewhere for adventure.

Nevertheless, much can be done to cut the number of accidents that occur in playgrounds and to reduce the severity of the resulting injuries. In far too many cases, neglected maintenance, badly designed equipment, or poor layout of the playground itself are either the primary cause of an accident or make a major contribution to the severity of the injuries that a child suffers.

The Design Council has been collecting information on accidents in playgrounds for the past four years. It has some horrifying examples of accidents that can in no way be blamed on the victims' natural desire to use playground equipment as a test of their bravery, strength or skill. Children have been killed falling from slides with rotten or non-existent safety rails; others have been maimed as a result of swings collapsing without warning and from climbing frames falling onto them; ankles and legs have been broken because of holes in the running boards of roundabouts, metal strips on slides have come away from their fixings and ripped right through a child's legs. . . .

A survey carried out by the Design Council highlighted the kinds of equipment that cause the most accidents. Over a four week period, eleven hospitals kept a check on the children brought into their casualty departments following accidents involving playground equipment. The proportions of each type of equipment concerned in the 158 accidents recorded were:

Equipment	Percentage
Swings	35
Climbing equipment	24
Slides	23
Roundabouts	13
Other	5

Although swings are at the top of the danger list, this is probably because there are many more swings than other types of equipment.

The Sheffield Children's Hospital has made its own analysis of the injuries caused by 200 accidents occurring on playground equipment in Sheffield. While confirming that the greatest number of accidents involved swings, there was evidence that the more serious accidents occurred on climbing frames and slides. The survey also supported other evidence that accidents on roundabouts and rocking horses are often caused by the fact that their speed is not always under the control of children actually using the equipment. Older children make them go too fast and the younger ones then fall off.

So what can be done? There are three main areas for major improvements: the design and selection of equipment; the layout of the playground; and the standards of maintenance.

Some items of modern equipment have benefited considerably from design improvements and are notably safer than older designs. For example, the most frequent accident in playgrounds is that of children being hit by swings. The old fashioned plain wood or plastics swing seat can cause severe injuries, ranging from bruising and concussion to broken bones and permanent brain damage. This is mainly because the force of the swing and its occupant, travelling at speed, is concentrated on the very narrow edge of the seat when it hits the victim. The use of an old car tyre spreads the impact over a larger area and effectively reduces the damage in most cases to no more than a bruise. There is also a special swing seat now on the market made up of a cellular rubber structure on a tough steel base. This is probably even better than a tyre at absorbing an impact without undue damage, although it may not have the makeshift appeal to children that an old car tyre does.

The main danger on a slide is from falls, which occasionally result in death and frequently in severe injury. Some slides are twenty feet tall, but a fall from a much smaller one can cause serious injuries. The Design Council therefore recommends that all slides should be placed on the natural slope of a hill or down the roof of a playhouse so that it is impossible to fall vertically for any distance. An additional requirement for acceptance to the Council's Design Index of well designed and safe products (see page 3 for details) is that the surface of a slide must be one continuous strip of metal and not several jointed pieces. This eliminates all injuries caused by the metal rising at its junctions or by razor blades and other objects being placed in the cracks by vandals. Vandalism is perhaps the biggest danger of all in playgrounds and it is essential that equipment is designed to be as vandal-proof as possible. For example, welding or invisible fastenings are much better than visible nuts and bolts.

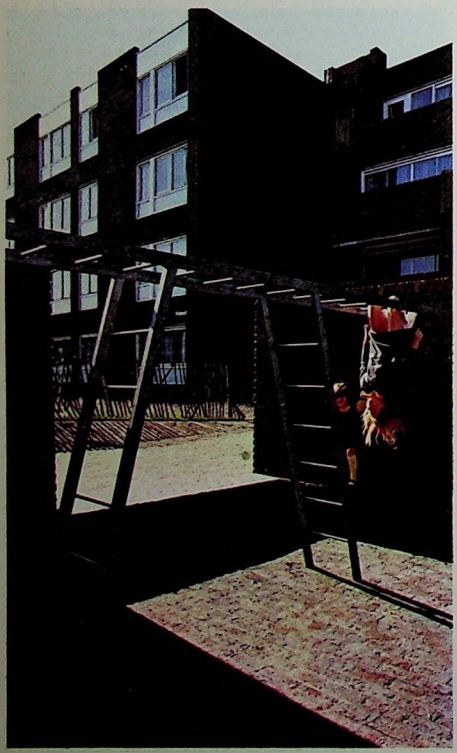
The requirements for safe climbing frames are varied. They must be fixed firmly in the ground so that it is impossible for them to be pulled over, either deliberately or by accident; they should have no projections or sharp edges; and the size of the gaps between bars should be such that a child cannot become wedged in them.

All moving equipment is dangerous and many experts have serious doubts about whether some of the traditional items of equipment should be used in playgrounds at all. For instance, the Design Council has refused to accept any plank swings because there is no way of stopping the combined weight of four or five children and the plank seat itself causing severe damage to any child who gets in its path.

Rocking horses are heavy too, and many injuries are caused by children being struck by the head or tail of one or being caught by the descent of the footboard. It has been suggested that rocking horses should be designed to 'gently brush away' a child who gets in their path, but nobody has yet devised such a horse. Rocking horses are also prone to the problem, highlighted by Sheffield Children's Hospital, of older children driving them too fast for younger ones. The Design Council has no rocking horses in its Index.

Roundabouts suffer from the same basic defect of not necessarily being under the control of the children actually on them. Again, they are often very heavy and difficult to stop, although their movement is not erratic like that of a rocking horse and accidents rarely involve children running past. The major danger is the gap between the roundabout and the ground, where children get hands or legs trapped, or even occasionally get their whole body jammed underneath. The only roundabout so far accepted by the Design Council is comparatively small and light. It can be stopped more easily by a young child and is less prone to interference by older children; it is also flat, making it easier for young children to get on and off.

TOP This long zigzag slide, designed by Mary Mitchell, appeals to a child's sense of adventure more than a conventional tower slide, but is actually safer because it is impossible for a child to fall vertically from it
BOTTOM LEFT Children like climbing, but even the best equipment can be dangerous if falls are not cushioned
BOTTOM RIGHT A rubber tyre does much less damage than a conventional wood or plastics seat if it hits a child
BOTTOM CENTRE This swing frame might have collapsed without warning in use had below-ground corrosion not been spotted by the Greater London Council's Scientific Branch during a special check
CENTRE RIGHT This Design Council Award-winning playhouse also serves as a base for a safe slide, its roof preventing children from falling vertically from a dangerous height



The Design Council's Design Index is probably the best guide to the choice of playground equipment available at present, as the current British Standard for this type of product is generally recognised as being out of date. However, the standard is being drastically revised and BSI hope soon to publish a new edition that will take account of many of the safety points outlined above.

The surface beneath playground equipment is important. Sand can be useful for providing a soft landing at the foot of a slide, beneath a swing, or around and under a roundabout. It does, however, need regular replacement, it cannot be used where dogs have access, and it can have the disadvantage of attracting very small children to the most dangerous parts of the playground, especially if no proper sandpit is available. In most cases a better solution is to use one of the new special rubber or plastics surfaces now available. At least one of these comes in the form of a cover that fits over a conventional concrete paving slab and onto which, it is claimed, an egg can be dropped from the top of a slide without breaking. This type of surface is ideal for use beneath slides and climbing frames.

The layout of the playground is also important. The main rules are: to try to separate the more hazardous equipment from that used by younger children; to keep moving equipment out of the natural path of children entering and leaving the playground or running from one piece of equipment to another; to try to keep out bicycles and dogs; and to put seats and perhaps a shelter close to the area used by younger children to encourage mothers to stay and supervise what is going on at close range. Fencing in particular pieces of equipment can do more harm than good unless carefully thought out. A fence around a swing must be far enough away to allow anybody pushing a swing to keep out of the way of the swing while leaving room for children to pass behind to the next piece of equipment. Fencing also usually becomes a plaything in itself and this in turn can cause unexpected problems. Notices warning kids under a certain age not to use particular types of equipment are worse than useless; if the children are old enough to read them they simply become a challenge. If the playground is unsupervised it should preferably be sited where there are adults normally close at hand. All playgrounds should be close to public lavatories and, if possible, a telephone and first aid facilities.

The best advice is for someone who understands children and the way they use playgrounds to be given the responsibility for siting and layout. Too often this is left to park keepers or technical staff who tend to expect kids to behave as adults. The attitude to avoid—and it is as common among some play equipment manufacturers as among local authorities—is summed up by those who blame accidents on children 'misusing' equipment. Children go to playgrounds to find adventure and challenge and they will always use their imagination to seek fresh thrills by using the equipment in all kinds of unexpected ways. There is no such thing as 'misuse' of equipment by children if the equipment is intended for their enjoyment and stimulation.

But while thoughtless siting and poor equipment contribute substantially to accidents and injuries, the biggest single cause is bad maintenance. There are two problems here: the unexpected collapse of equipment caused by corrosion or other defects that develop over a long period of time; and the damage caused by day-to-day wear and tear and vandalism.

The former is the more insidious because it can lead to a major tragedy with no warning. The collapse of equipment in various parts of the country has led certain local authorities to carry out checks on all or most of their playground equipment, with startling results. The GLC inspected all its equipment over five years old and condemned more than half of it, including more than 70 per cent of all its slides and big swings. Scunthorpe condemned 20 per cent of all their equipment after an inspection, and Oxford City Council has replaced the fixing stubs in the heads of all its older swings as a precaution after the collapse of one of them.

The GLC is now carrying out tests on all its equipment at five year intervals in order to spot defects before they become serious. The inspections include breaking up the surfaces around tube supports to see whether they have corroded below ground level. This visual inspection, backed by tests with a hammer, is followed up by non-destructive testing using ultrasonic or fibre optic equipment. Clamping bolts securing tripod castings and bracing clamps on horizontal bars have been found to be susceptible to corrosion, especially in crevices between clamped components. These weaknesses can usually be spotted by eye, as can the brittle fractures that sometimes occur in iron castings.

Some of the risks from these hidden defects can be avoided. Support tubes, for example, should be embedded in concrete rather than asphalt and the surface should be contoured to shed water. Corrosion-resistant bolts and tubing should be used, and incompatible metal nameplates that set up an electrolytic reaction with tubes must be avoided. Components that are known to wear—such as swing chains—should be strong enough not to require annual inspection. The least defensible kinds of accident are those caused by obvious defects that have not been repaired. There are many cases on the Design Council's files of accidents involving equipment left in a dangerous state for days and weeks after being reported faulty. In one case, three children broke their ankles and two were badly bruised during the seventeen days between a council being told that a plank was missing on a roundabout and any action being taken. In another case, a council decided to replace a slide that had a rickety platform from which a child had fallen and been seriously injured, but they did nothing to close the dangerous slide while the new one was delivered 'because of the school holidays'. Even when action is taken, lack of thought can cause a tragedy. One council removed a faulty climbing frame from a park to an adjacent maintenance yard where an eleven-year-old boy found it, started to climb and it fell on top of him causing serious injury. There was no fence between the playground and the yard.

All play equipment should be inspected visually every day to check that vandals have not removed bolts, broken boards on roundabouts, or sabotaged the slide. A more thorough visual inspection should be made at, say, monthly intervals to check against rotting boards, damaged steps and similar defects. Providing that the person carrying out the inspection is told what to look for, these checks do not require special skills or tools. Indeed, where a full-time employee is not available, it may be possible for someone living close to the playground to do the job, either voluntarily or for a small payment.

Playgrounds should be attractive and stimulating enough to keep children away from such potentially lethal alternatives as roads, railway tracks and derelict houses. Careful choice of equipment, and understanding of how children behave, and a great deal of detailed attention to inspection and maintenance can ensure that a playground achieves these objectives without putting children unnecessarily at risk of serious injury.

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street scene

The street scene concerns everyone: a pleasant road, shopping centre or park can make a considerable difference to the quality of life for anyone in their locality. But no single person or organisation is responsible for the street scene and the result, too often, is a mess. Co-ordination between the organisations and individuals responsible is a prerequisite for improvement, for it is the totality of the street scene that matters. A beautiful building or an architecturally superb conservation area can be ruined by a badly-sited telephone kiosk or inappropriate street lighting.

Street Scene is for those who want to help the decision makers to make the *right* decisions. Essential for local conservation and amenity societies, for those in local government and community pressure groups, it will also be of interest to architects and planners, consumer groups, parents, neighbourhood councils – all those, in fact, who want to make their environment safer and more pleasant to live in.

The book sets out to provide information and advice on how to create streets that work well and look attractive. It is comprehensively illustrated in colour and black and white to show how the information in the text can be applied to the street scene, including, for example, the right and wrong way of erecting street signs. *Street Scene* covers the choice and siting of street furniture; the important but often overlooked subject of the texture of paving and surfaces; and the use of trees in the urban landscape. There are sections on architectural conservation; on likely developments in urban transport and their implications for the street scene; on the contribution that waterways can make to the environment; and on the role that advertising plays in the streets. There is also a section on safety in children's playgrounds, for which most equipment is bought and maintained by local authorities; and another on planning for people, with emphasis on pedestrianisation schemes.

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